



ANSI/IES LM-79-19 TEST REPORT

Applicant's name	LED One Corporation
Address.....	12437 Bellegrave Ave. Eastvale, CA 91752
Brand Name	LED One
Report No.	BTR66.181.23.0004.36
Product Name.....	Roadway Luminaires
Model Number	LOC-SPAL-MW(50/80/100/150)30KD-T2LV; LOC-SPAL-MW(50/80/100/150)40KD-T2LV; LOC-SPAL-MW(50/80/100/150)50KD-T2LV; LOC-SPAL-MW(50/80/100/150)30KD-T3LV; LOC-SPAL-MW(50/80/100/150)40KD-T3LV; LOC-SPAL-MW(50/80/100/150)50KD-T3LV; LOC-SPAL-MW(50/80/100/150)30KD-T4LV; LOC-SPAL-MW(50/80/100/150)40KD-T4LV; LOC-SPAL-MW(50/80/100/150)50KD-T4LV; LOC-SPAL-MW(50/80/100/150)30KD-T5LV; LOC-SPAL-MW(50/80/100/150)40KD-T5LV; LOC-SPAL-MW(50/80/100/150)50KD-T5LV
Tested by (printed name and signature)	Xia Zeng
Title.....	Test Engineer
Approved by (printed name and signature)	Junia Zhang
Title.....	Approved By
Date of issue	Jun 02, 2023
Testing Laboratory Name	BEST Test Service Shenzhen Co., Ltd. 1 st Floor, 1 st Building, Weitai Industrial Park, Yingrenshi, Shiyan, Baoan, Shenzhen, China
Address	Tel:+86-755-28236006, Email: service@bestcert.cn
Accreditation	DLC/Lighting Facts/UL/ETL/ELI/CEC/EPA/DOE NVLAP Testing Lab Code: 200770-0
Test specification	
Standard	ANSI/IES LM-79-19
Test procedure/method	ANSI/IES LM-79-19 Test Procedure
Non-standard test method	No
Test Report Form No.	BEST_LM-79-19
TRF originator.....	BEST Test Service Shenzhen Co., Ltd. Mr Tseng
Master TRF	BEST_LM-79-19.doc

Note:
The laboratory has not been responsible for the sampling stage (e.g. the sample has been provided by the customer), the results relate only to the items tested.
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Description:					
The date of sampling	N/A				
The date of receipt of the test sample / requirement /item(s)	Mar 08, 2023				
Test date.....	Mar 08, 2023 to Mar 10, 2023				
Model Number	LOC-SPAL-MW(50/80/100/150)30KD-T2LV; LOC-SPAL-MW(50/80/100/150)40KD-T2LV; LOC-SPAL-MW(50/80/100/150)50KD-T2LV; LOC-SPAL-MW(50/80/100/150)30KD-T3LV; LOC-SPAL-MW(50/80/100/150)40KD-T3LV; LOC-SPAL-MW(50/80/100/150)50KD-T3LV; LOC-SPAL-MW(50/80/100/150)30KD-T4LV; LOC-SPAL-MW(50/80/100/150)40KD-T4LV; LOC-SPAL-MW(50/80/100/150)50KD-T4LV; LOC-SPAL-MW(50/80/100/150)30KD-T5LV; LOC-SPAL-MW(50/80/100/150)40KD-T5LV; LOC-SPAL-MW(50/80/100/150)50KD-T5LV				
Note	Declared by the applicant that these models are just different in CCT and/or lens, there are four types of roadway luminaire lens, such as T2/T3/T4/T5.				
The condition of the item	N/A				
Sampling method.....	Provided by Applicant				
Sample Quantity	5 unit				
SKU	N/A				
Rating(s) (V; Hz).....	AC 347V-488V; 60Hz				
Test Voltage(V; Hz)	AC 347V/488V; 60HZ				
Nominal Power	50W-80W-100W-150W				
Nominal Power Factor	N/A				
Nominal Lumen Output.....	/	50W	80W	100W	150W
	3000K models	7000lm	12000lm	14000lm	21000lm
	4000K models	7500lm	12000lm	15000lm	22500lm
	5000K models	7500lm	12000lm	15000lm	22500lm
Nominal CCT	3000K; 4000K; 5000K				
Note	This product is wattage adjustable, tested at 150W setting specified by applicant.				
Nominal CRI(Ra)	80				
Number of hours operated prior to measurement.....	0H				
Total operating time of the product for measurements including stabilization:	3.5H				
Ambient temperature	24.7°C				
Orientation (burning position) of SSL product during test.....	Lighting Surface Down or Base Up				
Stabilization time	1.5 H				
Photometric method	Sphere-spectroradiometer+ Goniophotometer				
Calibration standard lamp used	DC 24V 100W Omni-Directional Halogen Calibrated by NIM China (Sphere) DC 120V 500W Omni-Directional Halogen Calibrated by NIM China (Goniophotometer)				
Correction factors applied.....	Self absorbing applied				
Photometric measurement conditions	See test method description below				
Bandwidth of spectroradiometer	1nm				
Statement of uncertainties	3.1%				

LED Light engine monitoring temperature °C	N/A
Deviation.....	None

Note: The test data in this report shares with report No. BTR66.181.23.0002.04

Photometric and Electrical Measurement

Total light output (luminous flux) for the 25°C ± 1°C ambient temperature conditions was measured using a ø2.0m 4π geometry integrating sphere. Temperature was measured at a position inside the sphere. Spectral radiant flux was measured using the photo detector built in the integrating sphere. Each lamp was operated at rated voltage in its designated orientation. Each lamp was in a stable state before measurements are done as below:

Step 1 Take 3 measurements of the lamp light output at 10 minutes interval (total time=20mintues.), the pre-burning time is not included in the formal testing time period.

Step 2 Calculate the difference in percentage between the maximum measured value and the minimum measured value with the three consecutive measurements.

Step 3 If the value calculated in Step 2 does not exceed 0.5 percent, the lamp is considered stable.

Luminous flux, chromaticity coordinates, correlated color temperature and color rendering index for each lamp were calculated from the spectral radiant flux measurements taken at 1 nm increment over the range of 380 to 780 nm. The calibration of the sphere photometer-spectrometer system can be traced back to the NIM. Lamp efficacy (lumens per watt) for each lamp model was computed based on the luminous flux result revised taking the self-absorbing correction factor into consideration. Electrical measurements including voltage, current, power and power factor were measured using the digital power meter.

Luminous Intensity

A goniophotometer was used to measure the intensity distribution at each angle, Luminous intensity (cd) was measured within each vertical plane at a 22.5° vertical angle increment (maximum) from 0° to 360°, measurements were repeated in vertical planes about the lamp (polar) axis in an increment of 1° from 0° to 180°, and the intensity data were exported to a file in excel format.



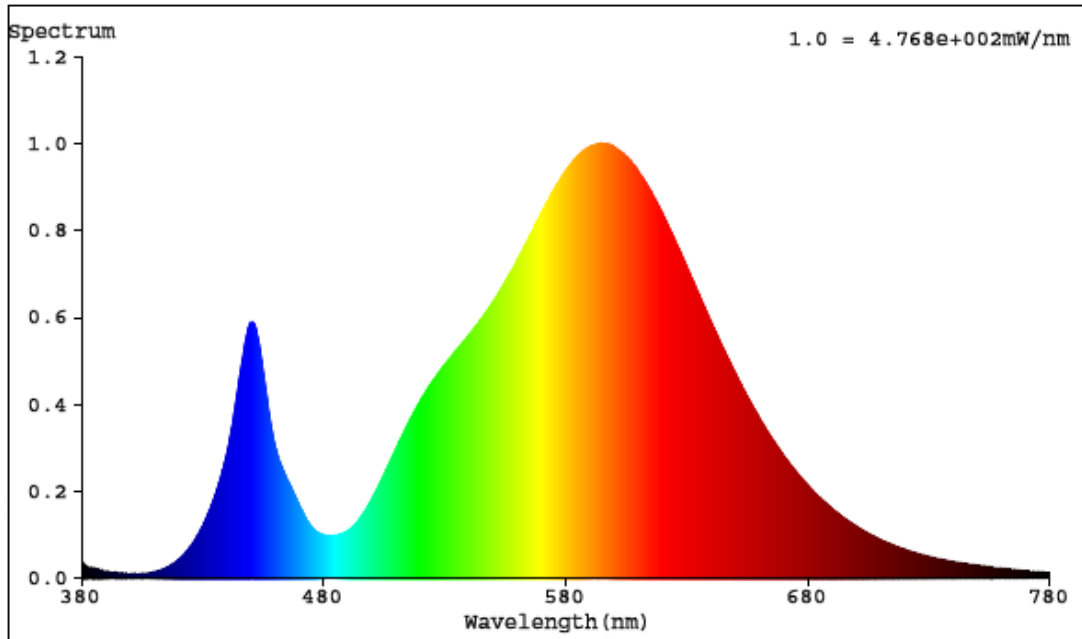
Photometric and Electrical Test Data

Model Number	Input Voltage (V)	Frequency (Hz)	Input Current (A)	ITHD	Input Power (W)	Power Factor	Lumen Output (Lumens)	Efficiency (Lumen/W)
LOC-SPAL-MW(50/80/100/150)30KD-T2LV	347.03	60.0	0.4289	11.6%	147.90	0.9936	23013.00	155.59
LOC-SPAL-MW(50/80/100/150)30KD-T2LV	480.01	60.0	0.3146	8.6%	147.90	0.9794	23077.00	156.03
LOC-SPAL-MW(50/80/100/150)50KD-T2LV	347.02	60.0	0.4331	8.6%	149.70	0.9960	23592.00	157.59
LOC-SPAL-MW(50/80/100/150)50KD-T2LV	480.06	60.0	0.3161	7.6%	149.20	0.9833	23615.00	158.26
LOC-SPAL-MW(50/80/100/150)30KD-T3LV	347.04	60.0	0.4309	/	148.45	0.9927	23104.20	155.64
LOC-SPAL-MW(50/80/100/150)30KD-T4LV	347.01	60.0	0.4302	/	148.20	0.9928	23047.90	155.52
LOC-SPAL-MW(50/80/100/150)30KD-T5LV	347.07	60.0	0.4278	/	147.47	0.9932	23201.80	157.33
Model Number	CCT (K)	CRI (Ra)	R9	x CIE1931	y CIE1931	u' CIE1976	v' CIE1976	Duv CIE1976
LOC-SPAL-MW(50/80/100/150)30KD-T2LV (347V)	3005	72.0	-31	0.4372	0.4053	0.2502	0.5219	0.0004
LOC-SPAL-MW(50/80/100/150)30KD-T2LV (480V)	3006	72.0	-31	0.4371	0.4052	0.2502	0.5218	0.0004
LOC-SPAL-MW(50/80/100/150)50KD-T2LV (347V)	5077	72.8	-25	0.3433	0.3534	0.2095	0.4853	0.0017
LOC-SPAL-MW(50/80/100/150)50KD-T2LV (480V)	5084	72.9	-25	0.3430	0.3530	0.2095	0.4851	0.0016

Spectrum Plots

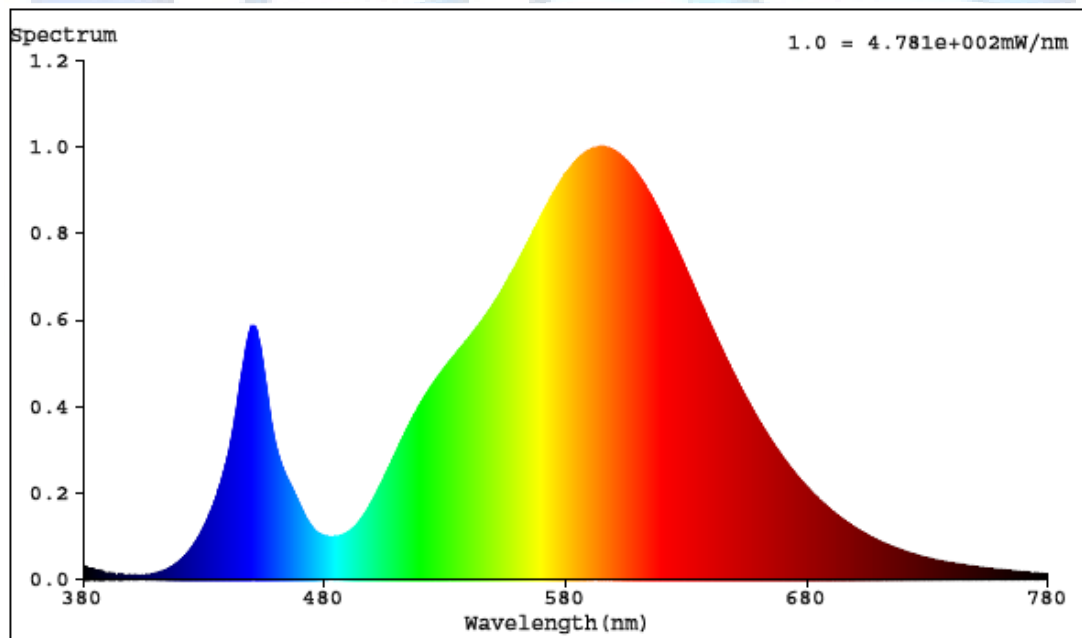
LOC-SPAL-MW(50/80/100/150)30KD-T2LV

347V



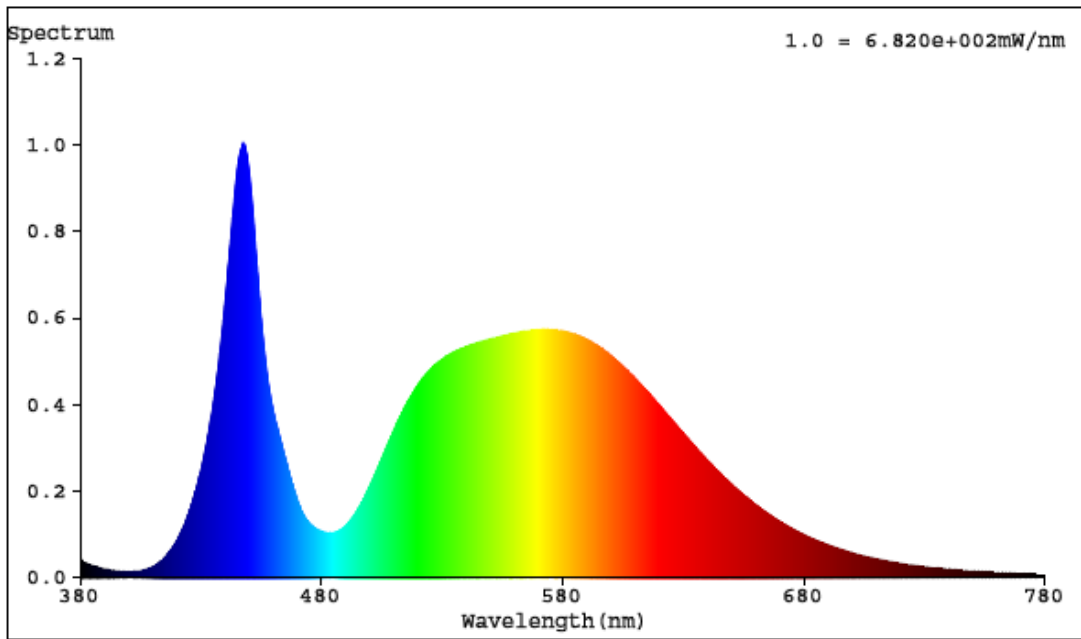
LOC-SPAL-MW(50/80/100/150)30KD-T2LV

480V

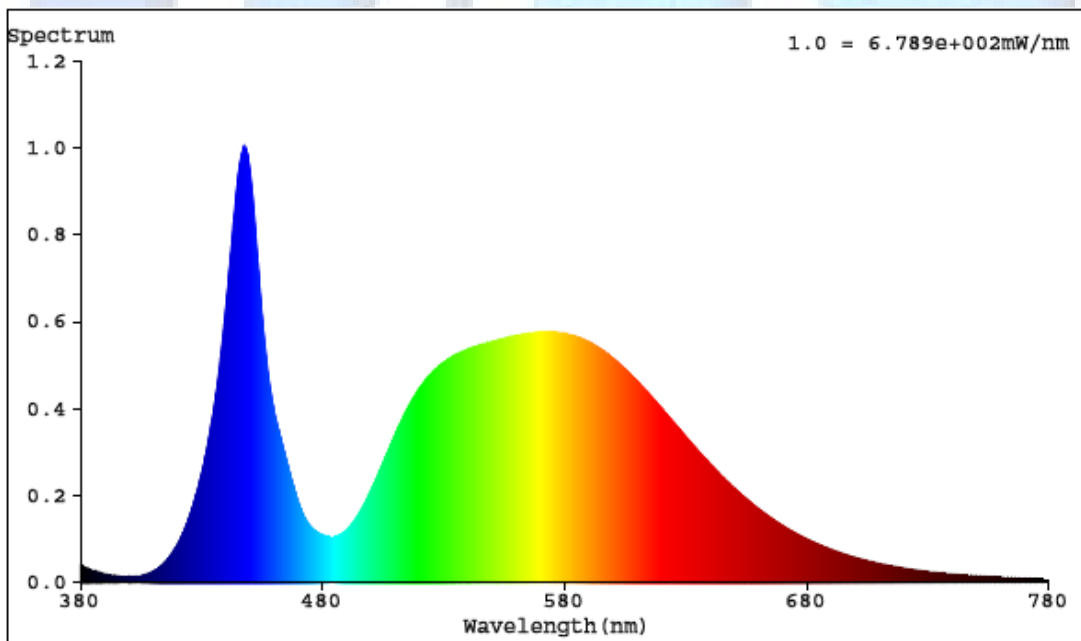


LOC-SPAL-MW(50/80/100/150)50KD-T2LV

347V

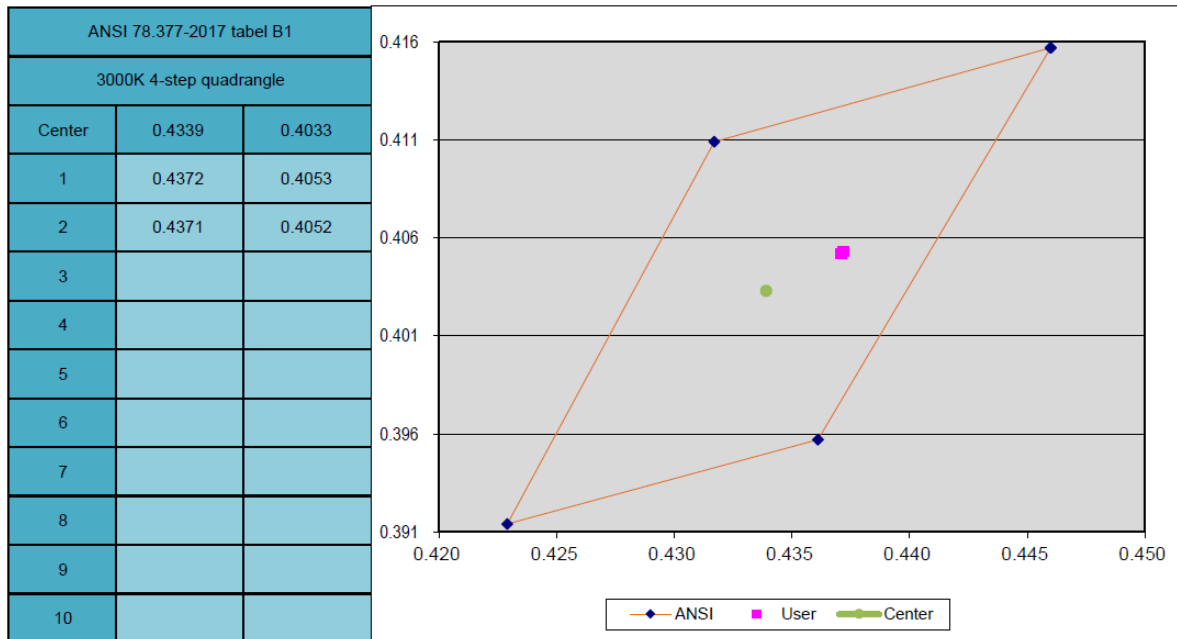


480V

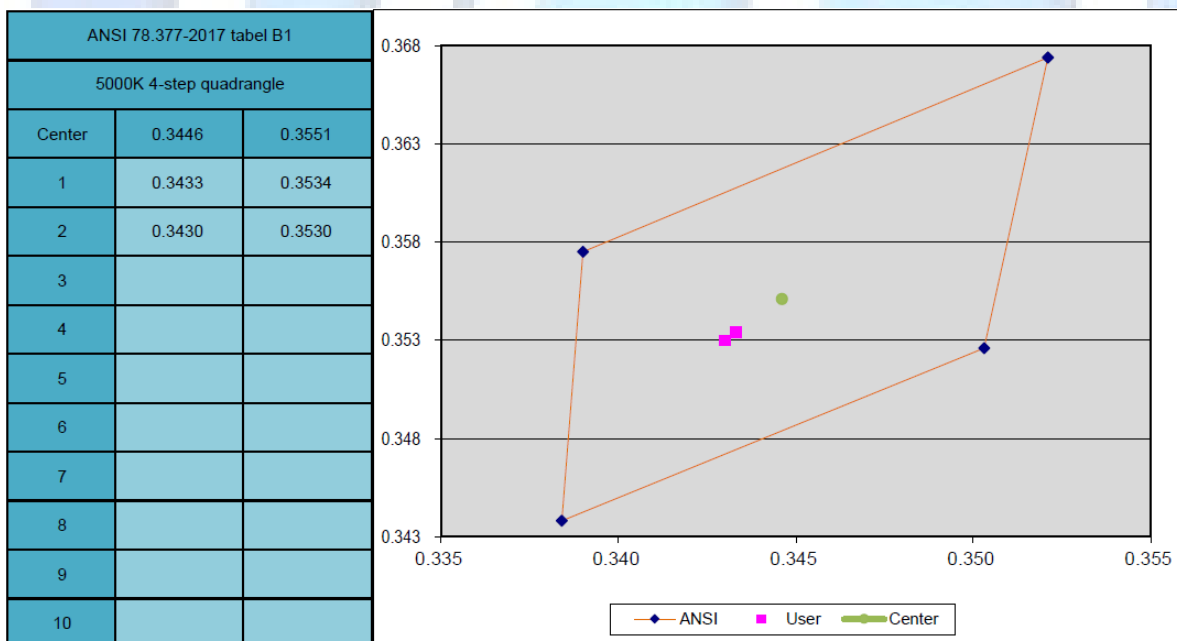


4-step quadrangle of ANSI 78.377-2017

LOC-SPAL-MW(50/80/100/150)30KD-T2LV



LOC-SPAL-MW(50/80/100/150)50KD-T2LV



Spectral Energy Distribution(LOC-SPAL-MW(50/80/100/150)30KD-T2LV)

347V

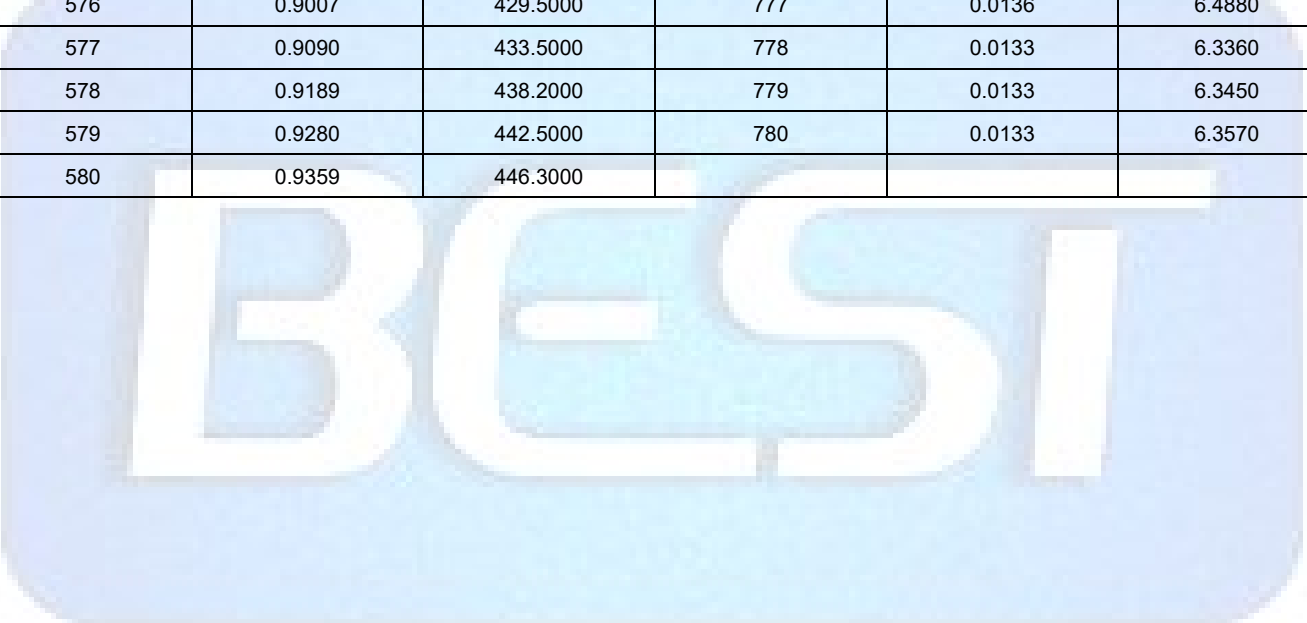
WL (nm)	Spectrum	Spectrum	WL (nm)	Spectrum	Spectrum
380	0.0290	13.8400	581	0.9433	449.8000
381	0.0259	12.3600	582	0.9509	453.4000
382	0.0258	12.3000	583	0.9577	456.7000
383	0.0236	11.2700	584	0.9640	459.7000
384	0.0231	11.0100	585	0.9711	463.1000
385	0.0194	9.2490	586	0.9762	465.5000
386	0.0202	9.6530	587	0.9804	467.5000
387	0.0186	8.8800	588	0.9846	469.5000
388	0.0158	7.5270	589	0.9895	471.9000
389	0.0148	7.0470	590	0.9925	473.3000
390	0.0140	6.6870	591	0.9953	474.6000
391	0.0138	6.5580	592	0.9965	475.2000
392	0.0129	6.1560	593	0.9984	476.1000
393	0.0120	5.7080	594	0.9991	476.4000
394	0.0122	5.8190	595	0.9988	476.3000
395	0.0106	5.0490	596	0.9984	476.1000
396	0.0108	5.1400	597	0.9978	475.8000
397	0.0104	4.9630	598	0.9963	475.1000
398	0.0095	4.5100	599	0.9936	473.8000
399	0.0088	4.2110	600	0.9909	472.5000
400	0.0090	4.2980	601	0.9875	470.9000
401	0.0088	4.1810	602	0.9835	469.0000
402	0.0098	4.6810	603	0.9786	466.7000
403	0.0088	4.2160	604	0.9743	464.6000
404	0.0091	4.3590	605	0.9685	461.8000
405	0.0098	4.6510	606	0.9629	459.1000
406	0.0102	4.8640	607	0.9571	456.4000
407	0.0108	5.1350	608	0.9494	452.7000
408	0.0109	5.2190	609	0.9426	449.5000
409	0.0123	5.8490	610	0.9337	445.3000
410	0.0134	6.3790	611	0.9266	441.9000
411	0.0147	6.9980	612	0.9173	437.4000
412	0.0165	7.8730	613	0.9086	433.3000
413	0.0183	8.7080	614	0.8992	428.8000
414	0.0204	9.7070	615	0.8898	424.3000
415	0.0228	10.8800	616	0.8789	419.1000
416	0.0259	12.3500	617	0.8687	414.2000
417	0.0294	14.0300	618	0.8588	409.5000
418	0.0328	15.6400	619	0.8471	403.9000
419	0.0372	17.7500	620	0.8364	398.8000
420	0.0415	19.7800	621	0.8238	392.8000
421	0.0463	22.1000	622	0.8125	387.4000

422	0.0517	24.6400	623	0.7997	381.3000
423	0.0583	27.8000	624	0.7886	376.0000
424	0.0650	31.0100	625	0.7767	370.4000
425	0.0716	34.1300	626	0.7638	364.2000
426	0.0796	37.9700	627	0.7519	358.6000
427	0.0886	42.2500	628	0.7393	352.5000
428	0.0972	46.3500	629	0.7271	346.7000
429	0.1078	51.4000	630	0.7139	340.4000
430	0.1184	56.4500	631	0.7017	334.6000
431	0.1303	62.1600	632	0.6881	328.1000
432	0.1429	68.1600	633	0.6757	322.2000
433	0.1563	74.5200	634	0.6633	316.3000
434	0.1712	81.6300	635	0.6508	310.3000
435	0.1858	88.6000	636	0.6371	303.8000
436	0.2027	96.6400	637	0.6253	298.2000
437	0.2198	104.8000	638	0.6124	292.0000
438	0.2414	115.1000	639	0.6001	286.1000
439	0.2622	125.0000	640	0.5878	280.3000
440	0.2877	137.2000	641	0.5754	274.4000
441	0.3154	150.4000	642	0.5632	268.6000
442	0.3454	164.7000	643	0.5512	262.8000
443	0.3792	180.8000	644	0.5389	257.0000
444	0.4161	198.4000	645	0.5270	251.3000
445	0.4528	215.9000	646	0.5155	245.8000
446	0.4894	233.4000	647	0.5039	240.3000
447	0.5234	249.6000	648	0.4924	234.8000
448	0.5537	264.0000	649	0.4809	229.3000
449	0.5760	274.7000	650	0.4700	224.1000
450	0.5855	279.2000	651	0.4586	218.7000
451	0.5846	278.8000	652	0.4483	213.8000
452	0.5721	272.8000	653	0.4367	208.3000
453	0.5472	260.9000	654	0.4266	203.4000
454	0.5124	244.4000	655	0.4159	198.3000
455	0.4730	225.6000	656	0.4063	193.8000
456	0.4328	206.4000	657	0.3956	188.6000
457	0.3931	187.4000	658	0.3865	184.3000
458	0.3572	170.3000	659	0.3765	179.5000
459	0.3262	155.6000	660	0.3665	174.8000
460	0.3004	143.2000	661	0.3565	170.0000
461	0.2790	133.0000	662	0.3481	166.0000
462	0.2626	125.2000	663	0.3390	161.7000
463	0.2477	118.1000	664	0.3301	157.4000
464	0.2357	112.4000	665	0.3210	153.1000
465	0.2235	106.6000	666	0.3127	149.1000
466	0.2126	101.4000	667	0.3047	145.3000
467	0.2012	95.9400	668	0.2964	141.4000

468	0.1885	89.9000	669	0.2882	137.4000
469	0.1765	84.1700	670	0.2801	133.6000
470	0.1647	78.5200	671	0.2728	130.1000
471	0.1530	72.9800	672	0.2654	126.5000
472	0.1419	67.6400	673	0.2580	123.0000
473	0.1324	63.1200	674	0.2511	119.7000
474	0.1238	59.0500	675	0.2445	116.6000
475	0.1165	55.5300	676	0.2372	113.1000
476	0.1111	52.9600	677	0.2308	110.1000
477	0.1064	50.7500	678	0.2243	106.9000
478	0.1031	49.1600	679	0.2180	103.9000
479	0.1005	47.9300	680	0.2122	101.2000
480	0.0989	47.1600	681	0.2056	98.0200
481	0.0978	46.6200	682	0.2001	95.4100
482	0.0974	46.4400	683	0.1943	92.6700
483	0.0970	46.2700	684	0.1892	90.2100
484	0.0976	46.5400	685	0.1839	87.6800
485	0.0981	46.7900	686	0.1784	85.0700
486	0.0990	47.2300	687	0.1736	82.7900
487	0.1004	47.9000	688	0.1687	80.4500
488	0.1025	48.8600	689	0.1641	78.2300
489	0.1050	50.0500	690	0.1591	75.8800
490	0.1082	51.5900	691	0.1545	73.6900
491	0.1125	53.6200	692	0.1501	71.5600
492	0.1171	55.8500	693	0.1457	69.4800
493	0.1228	58.5700	694	0.1412	67.3200
494	0.1295	61.7600	695	0.1372	65.4500
495	0.1364	65.0300	696	0.1334	63.6300
496	0.1446	68.9300	697	0.1294	61.7200
497	0.1529	72.9100	698	0.1256	59.9200
498	0.1616	77.0600	699	0.1220	58.2000
499	0.1715	81.7900	700	0.1183	56.4200
500	0.1815	86.5600	701	0.1148	54.7300
501	0.1923	91.7100	702	0.1114	53.1400
502	0.2028	96.7200	703	0.1080	51.5000
503	0.2148	102.4000	704	0.1051	50.1100
504	0.2255	107.5000	705	0.1017	48.4900
505	0.2372	113.1000	706	0.0987	47.0700
506	0.2491	118.8000	707	0.0960	45.7900
507	0.2612	124.6000	708	0.0929	44.2800
508	0.2728	130.1000	709	0.0902	43.0300
509	0.2854	136.1000	710	0.0876	41.7900
510	0.2972	141.7000	711	0.0849	40.4800
511	0.3094	147.5000	712	0.0826	39.3700
512	0.3207	152.9000	713	0.0801	38.1900
513	0.3319	158.3000	714	0.0777	37.0400

514	0.3443	164.2000	715	0.0755	36.0200
515	0.3551	169.3000	716	0.0732	34.9000
516	0.3664	174.7000	717	0.0712	33.9500
517	0.3773	179.9000	718	0.0688	32.8100
518	0.3869	184.5000	719	0.0669	31.9000
519	0.3975	189.5000	720	0.0650	31.0100
520	0.4067	193.9000	721	0.0632	30.1600
521	0.4162	198.5000	722	0.0613	29.2400
522	0.4257	203.0000	723	0.0595	28.3800
523	0.4347	207.3000	724	0.0579	27.6000
524	0.4430	211.3000	725	0.0561	26.7600
525	0.4515	215.3000	726	0.0546	26.0200
526	0.4591	218.9000	727	0.0530	25.2700
527	0.4672	222.8000	728	0.0515	24.5800
528	0.4751	226.5000	729	0.0501	23.8900
529	0.4823	230.0000	730	0.0485	23.1200
530	0.4896	233.5000	731	0.0470	22.4200
531	0.4967	236.8000	732	0.0458	21.8500
532	0.5035	240.1000	733	0.0444	21.1700
533	0.5098	243.1000	734	0.0435	20.7300
534	0.5177	246.9000	735	0.0424	20.2200
535	0.5244	250.1000	736	0.0413	19.7100
536	0.5306	253.0000	737	0.0404	19.2600
537	0.5380	256.5000	738	0.0393	18.7300
538	0.5444	259.6000	739	0.0384	18.3100
539	0.5507	262.6000	740	0.0374	17.8500
540	0.5583	266.2000	741	0.0361	17.2100
541	0.5653	269.6000	742	0.0353	16.8200
542	0.5720	272.8000	743	0.0344	16.4200
543	0.5802	276.7000	744	0.0335	15.9800
544	0.5861	279.5000	745	0.0328	15.6500
545	0.5936	283.1000	746	0.0321	15.3200
546	0.6013	286.7000	747	0.0311	14.8300
547	0.6096	290.7000	748	0.0303	14.4300
548	0.6177	294.5000	749	0.0296	14.1000
549	0.6262	298.6000	750	0.0288	13.7100
550	0.6344	302.5000	751	0.0277	13.2300
551	0.6427	306.5000	752	0.0273	13.0300
552	0.6518	310.8000	753	0.0267	12.7100
553	0.6613	315.4000	754	0.0259	12.3400
554	0.6706	319.8000	755	0.0252	12.0400
555	0.6798	324.1000	756	0.0246	11.7200
556	0.6896	328.8000	757	0.0239	11.4000
557	0.6997	333.7000	758	0.0231	11.0400
558	0.7094	338.3000	759	0.0228	10.8600
559	0.7190	342.8000	760	0.0221	10.5400

560	0.7304	348.3000	761	0.0218	10.3700
561	0.7415	353.6000	762	0.0210	10.0000
562	0.7512	358.2000	763	0.0204	9.7150
563	0.7626	363.7000	764	0.0197	9.4090
564	0.7732	368.7000	765	0.0192	9.1760
565	0.7846	374.1000	766	0.0187	8.9100
566	0.7945	378.8000	767	0.0181	8.6340
567	0.8064	384.5000	768	0.0175	8.3590
568	0.8179	390.0000	769	0.0170	8.0980
569	0.8286	395.1000	770	0.0165	7.8900
570	0.8401	400.6000	771	0.0161	7.6860
571	0.8495	405.1000	772	0.0156	7.4200
572	0.8610	410.6000	773	0.0152	7.2580
573	0.8702	415.0000	774	0.0148	7.0590
574	0.8813	420.3000	775	0.0144	6.8530
575	0.8907	424.7000	776	0.0140	6.6710
576	0.9007	429.5000	777	0.0136	6.4880
577	0.9090	433.5000	778	0.0133	6.3360
578	0.9189	438.2000	779	0.0133	6.3450
579	0.9280	442.5000	780	0.0133	6.3570
580	0.9359	446.3000			



Spectral Energy Distribution(LOC-SPAL-MW(50/80/100/150)30KD-T2LV)

480V

WL (nm)	Spectrum	Spectrum	WL (nm)	Spectrum	Spectrum
380	0.0302	14.4500	581	0.9439	451.3000
381	0.0246	11.7600	582	0.9512	454.8000
382	0.0262	12.5100	583	0.9583	458.1000
383	0.0234	11.2100	584	0.9639	460.8000
384	0.0244	11.6800	585	0.9709	464.2000
385	0.0205	9.8030	586	0.9765	466.9000
386	0.0198	9.4780	587	0.9802	468.6000
387	0.0183	8.7610	588	0.9849	470.9000
388	0.0181	8.6630	589	0.9892	472.9000
389	0.0149	7.1170	590	0.9917	474.1000
390	0.0141	6.7280	591	0.9949	475.7000
391	0.0134	6.4170	592	0.9971	476.7000
392	0.0134	6.4230	593	0.9983	477.3000
393	0.0124	5.9410	594	0.9992	477.7000
394	0.0113	5.4160	595	0.9983	477.3000
395	0.0116	5.5650	596	0.9989	477.6000
396	0.0115	5.4810	597	0.9963	476.3000
397	0.0099	4.7560	598	0.9960	476.2000
398	0.0093	4.4590	599	0.9937	475.1000
399	0.0094	4.4760	600	0.9906	473.6000
400	0.0095	4.5470	601	0.9868	471.8000
401	0.0090	4.2830	602	0.9830	470.0000
402	0.0094	4.4800	603	0.9786	467.8000
403	0.0089	4.2360	604	0.9739	465.6000
404	0.0091	4.3440	605	0.9683	463.0000
405	0.0099	4.7300	606	0.9631	460.4000
406	0.0103	4.9230	607	0.9558	457.0000
407	0.0106	5.0520	608	0.9487	453.6000
408	0.0115	5.4980	609	0.9414	450.1000
409	0.0126	6.0300	610	0.9335	446.3000
410	0.0135	6.4420	611	0.9264	442.9000
411	0.0152	7.2650	612	0.9171	438.5000
412	0.0165	7.9100	613	0.9085	434.4000
413	0.0184	8.8030	614	0.8982	429.4000
414	0.0207	9.9110	615	0.8897	425.4000
415	0.0235	11.2200	616	0.8789	420.2000
416	0.0265	12.6600	617	0.8678	414.9000
417	0.0298	14.2300	618	0.8579	410.2000
418	0.0334	15.9400	619	0.8464	404.7000
419	0.0377	18.0100	620	0.8354	399.4000
420	0.0421	20.1000	621	0.8237	393.8000
421	0.0471	22.5400	622	0.8128	388.6000
422	0.0527	25.2100	623	0.7998	382.4000

423	0.0585	27.9800	624	0.7891	377.3000
424	0.0653	31.2200	625	0.7768	371.4000
425	0.0724	34.6000	626	0.7642	365.4000
426	0.0811	38.7500	627	0.7517	359.4000
427	0.0896	42.8600	628	0.7394	353.5000
428	0.0984	47.0300	629	0.7261	347.2000
429	0.1090	52.1200	630	0.7136	341.1000
430	0.1194	57.0900	631	0.7014	335.3000
431	0.1313	62.7600	632	0.6888	329.3000
432	0.1440	68.8700	633	0.6761	323.2000
433	0.1570	75.0500	634	0.6633	317.1000
434	0.1711	81.8200	635	0.6502	310.9000
435	0.1862	89.0500	636	0.6378	304.9000
436	0.2037	97.4000	637	0.6259	299.2000
437	0.2205	105.4000	638	0.6124	292.8000
438	0.2411	115.3000	639	0.5998	286.7000
439	0.2612	124.9000	640	0.5883	281.3000
440	0.2862	136.8000	641	0.5757	275.2000
441	0.3144	150.3000	642	0.5638	269.6000
442	0.3431	164.0000	643	0.5517	263.8000
443	0.3755	179.5000	644	0.5389	257.7000
444	0.4104	196.2000	645	0.5275	252.2000
445	0.4489	214.6000	646	0.5154	246.4000
446	0.4846	231.7000	647	0.5043	241.1000
447	0.5178	247.5000	648	0.4925	235.5000
448	0.5486	262.3000	649	0.4811	230.0000
449	0.5710	273.0000	650	0.4702	224.8000
450	0.5822	278.3000	651	0.4591	219.5000
451	0.5830	278.7000	652	0.4481	214.2000
452	0.5716	273.3000	653	0.4376	209.2000
453	0.5484	262.2000	654	0.4272	204.3000
454	0.5164	246.9000	655	0.4163	199.0000
455	0.4785	228.8000	656	0.4061	194.2000
456	0.4393	210.0000	657	0.3962	189.4000
457	0.3986	190.6000	658	0.3861	184.6000
458	0.3614	172.8000	659	0.3764	180.0000
459	0.3310	158.2000	660	0.3666	175.3000
460	0.3041	145.4000	661	0.3577	171.0000
461	0.2824	135.0000	662	0.3483	166.5000
462	0.2653	126.8000	663	0.3396	162.3000
463	0.2506	119.8000	664	0.3308	158.1000
464	0.2378	113.7000	665	0.3220	153.9000
465	0.2261	108.1000	666	0.3135	149.9000
466	0.2158	103.2000	667	0.3048	145.7000
467	0.2040	97.5400	668	0.2968	141.9000
468	0.1913	91.4700	669	0.2894	138.3000

469	0.1795	85.8000	670	0.2809	134.3000
470	0.1674	80.0500	671	0.2734	130.7000
471	0.1558	74.5000	672	0.2658	127.1000
472	0.1444	69.0600	673	0.2585	123.6000
473	0.1348	64.4300	674	0.2516	120.3000
474	0.1261	60.2800	675	0.2449	117.1000
475	0.1191	56.9600	676	0.2377	113.6000
476	0.1130	54.0200	677	0.2317	110.8000
477	0.1081	51.6600	678	0.2252	107.7000
478	0.1049	50.1300	679	0.2187	104.6000
479	0.1021	48.8200	680	0.2126	101.6000
480	0.1003	47.9700	681	0.2070	98.9500
481	0.0992	47.4200	682	0.2007	95.9600
482	0.0983	47.0200	683	0.1948	93.1500
483	0.0983	47.0200	684	0.1901	90.8700
484	0.0984	47.0400	685	0.1838	87.8800
485	0.0993	47.4500	686	0.1792	85.6600
486	0.1001	47.8300	687	0.1741	83.2200
487	0.1014	48.5000	688	0.1691	80.8400
488	0.1033	49.3700	689	0.1644	78.6100
489	0.1062	50.7900	690	0.1594	76.2100
490	0.1092	52.2200	691	0.1551	74.1600
491	0.1134	54.2000	692	0.1500	71.7200
492	0.1178	56.3000	693	0.1462	69.9000
493	0.1236	59.1000	694	0.1418	67.8000
494	0.1294	61.8700	695	0.1377	65.8500
495	0.1370	65.4800	696	0.1337	63.9300
496	0.1446	69.1400	697	0.1301	62.1800
497	0.1530	73.1400	698	0.1259	60.2000
498	0.1621	77.4800	699	0.1224	58.5100
499	0.1720	82.2500	700	0.1187	56.7500
500	0.1816	86.8100	701	0.1151	55.0400
501	0.1923	91.9300	702	0.1118	53.4600
502	0.2031	97.1000	703	0.1086	51.9200
503	0.2141	102.3000	704	0.1052	50.3200
504	0.2252	107.7000	705	0.1022	48.8400
505	0.2375	113.5000	706	0.0992	47.4200
506	0.2486	118.9000	707	0.0962	46.0000
507	0.2607	124.6000	708	0.0932	44.5500
508	0.2726	130.3000	709	0.0908	43.3900
509	0.2845	136.0000	710	0.0879	42.0000
510	0.2965	141.8000	711	0.0853	40.7800
511	0.3087	147.6000	712	0.0829	39.6300
512	0.3205	153.2000	713	0.0805	38.5100
513	0.3314	158.4000	714	0.0780	37.3000
514	0.3438	164.4000	715	0.0758	36.2200

515	0.3543	169.4000	716	0.0736	35.2000
516	0.3657	174.9000	717	0.0717	34.2900
517	0.3765	180.0000	718	0.0694	33.1900
518	0.3862	184.6000	719	0.0674	32.2200
519	0.3973	189.9000	720	0.0653	31.2000
520	0.4067	194.5000	721	0.0636	30.3900
521	0.4157	198.7000	722	0.0617	29.5200
522	0.4247	203.1000	723	0.0599	28.6500
523	0.4339	207.5000	724	0.0582	27.8300
524	0.4427	211.7000	725	0.0566	27.0500
525	0.4505	215.4000	726	0.0549	26.2200
526	0.4588	219.3000	727	0.0532	25.4200
527	0.4663	222.9000	728	0.0519	24.7900
528	0.4743	226.8000	729	0.0502	23.9900
529	0.4816	230.2000	730	0.0490	23.4100
530	0.4892	233.9000	731	0.0475	22.7300
531	0.4961	237.2000	732	0.0462	22.0900
532	0.5032	240.6000	733	0.0449	21.4800
533	0.5096	243.7000	734	0.0439	20.9700
534	0.5172	247.3000	735	0.0424	20.2500
535	0.5241	250.6000	736	0.0414	19.7700
536	0.5307	253.7000	737	0.0404	19.3400
537	0.5377	257.1000	738	0.0394	18.8500
538	0.5445	260.3000	739	0.0384	18.3700
539	0.5510	263.4000	740	0.0374	17.8900
540	0.5581	266.8000	741	0.0365	17.4700
541	0.5654	270.3000	742	0.0356	17.0400
542	0.5720	273.5000	743	0.0347	16.6100
543	0.5800	277.3000	744	0.0339	16.2200
544	0.5865	280.4000	745	0.0331	15.8100
545	0.5944	284.2000	746	0.0322	15.4100
546	0.6020	287.8000	747	0.0313	14.9400
547	0.6098	291.5000	748	0.0305	14.5600
548	0.6183	295.6000	749	0.0297	14.2100
549	0.6267	299.6000	750	0.0289	13.8100
550	0.6349	303.6000	751	0.0281	13.4200
551	0.6434	307.6000	752	0.0274	13.1100
552	0.6522	311.8000	753	0.0267	12.7600
553	0.6616	316.3000	754	0.0260	12.4300
554	0.6716	321.1000	755	0.0255	12.1900
555	0.6811	325.6000	756	0.0247	11.8200
556	0.6896	329.7000	757	0.0238	11.4000
557	0.7008	335.0000	758	0.0232	11.1100
558	0.7097	339.3000	759	0.0229	10.9400
559	0.7205	344.5000	760	0.0224	10.7000
560	0.7306	349.3000	761	0.0217	10.3700

561	0.7419	354.7000	762	0.0212	10.1500
562	0.7522	359.6000	763	0.0205	9.8150
563	0.7626	364.6000	764	0.0200	9.5620
564	0.7741	370.1000	765	0.0193	9.2360
565	0.7851	375.4000	766	0.0187	8.9390
566	0.7955	380.3000	767	0.0182	8.7120
567	0.8077	386.2000	768	0.0176	8.4060
568	0.8177	390.9000	769	0.0172	8.2120
569	0.8287	396.2000	770	0.0167	7.9990
570	0.8409	402.0000	771	0.0162	7.7660
571	0.8503	406.5000	772	0.0157	7.4930
572	0.8615	411.9000	773	0.0153	7.3280
573	0.8708	416.3000	774	0.0149	7.1420
574	0.8811	421.3000	775	0.0145	6.9540
575	0.8917	426.3000	776	0.0141	6.7330
576	0.9011	430.8000	777	0.0135	6.4740
577	0.9094	434.8000	778	0.0133	6.3590
578	0.9192	439.5000	779	0.0133	6.3680
579	0.9284	443.8000	780	0.0133	6.3800
580	0.9360	447.5000			



Spectral Energy Distribution(LOC-SPAL-MW(50/80/100/150)50KD-T2LV)

347V

WL (nm)	Spectrum	Spectrum	WL (nm)	Spectrum	Spectrum
380	0.0370	25.2300	581	0.5673	386.9000
381	0.0327	22.3100	582	0.5660	386.0000
382	0.0319	21.7500	583	0.5642	384.7000
383	0.0299	20.3800	584	0.5623	383.4000
384	0.0278	18.9200	585	0.5612	382.7000
385	0.0259	17.6500	586	0.5589	381.2000
386	0.0239	16.3300	587	0.5568	379.7000
387	0.0230	15.7000	588	0.5540	377.8000
388	0.0212	14.4600	589	0.5519	376.4000
389	0.0191	12.9900	590	0.5489	374.3000
390	0.0176	12.0300	591	0.5462	372.5000
391	0.0173	11.7700	592	0.5429	370.2000
392	0.0158	10.7600	593	0.5389	367.5000
393	0.0144	9.8120	594	0.5359	365.4000
394	0.0136	9.3080	595	0.5321	362.9000
395	0.0132	8.9810	596	0.5284	360.3000
396	0.0129	8.7880	597	0.5235	357.0000
397	0.0126	8.5820	598	0.5203	354.8000
398	0.0116	7.9250	599	0.5158	351.7000
399	0.0118	8.0140	600	0.5113	348.7000
400	0.0119	8.1230	601	0.5063	345.3000
401	0.0122	8.3090	602	0.5013	341.9000
402	0.0123	8.3620	603	0.4965	338.6000
403	0.0125	8.5330	604	0.4911	334.9000
404	0.0135	9.1890	605	0.4861	331.5000
405	0.0141	9.5990	606	0.4811	328.1000
406	0.0153	10.4700	607	0.4759	324.5000
407	0.0168	11.4800	608	0.4695	320.2000
408	0.0187	12.7700	609	0.4644	316.7000
409	0.0209	14.2500	610	0.4583	312.5000
410	0.0234	15.9600	611	0.4530	308.9000
411	0.0264	18.0300	612	0.4463	304.3000
412	0.0301	20.5600	613	0.4407	300.5000
413	0.0343	23.3800	614	0.4345	296.3000
414	0.0390	26.5700	615	0.4289	292.5000
415	0.0446	30.3900	616	0.4221	287.9000
416	0.0511	34.8400	617	0.4157	283.5000
417	0.0581	39.6200	618	0.4093	279.1000
418	0.0651	44.4200	619	0.4027	274.6000
419	0.0742	50.6000	620	0.3965	270.4000
420	0.0832	56.7100	621	0.3901	266.1000
421	0.0938	63.9900	622	0.3834	261.5000

422	0.1057	72.0500	623	0.3769	257.0000
423	0.1174	80.0300	624	0.3705	252.7000
424	0.1323	90.2000	625	0.3636	248.0000
425	0.1473	100.5000	626	0.3573	243.7000
426	0.1639	111.8000	627	0.3512	239.5000
427	0.1831	124.9000	628	0.3444	234.9000
428	0.2021	137.9000	629	0.3383	230.7000
429	0.2244	153.0000	630	0.3314	226.0000
430	0.2473	168.7000	631	0.3247	221.4000
431	0.2727	185.9000	632	0.3188	217.4000
432	0.3009	205.2000	633	0.3122	212.9000
433	0.3301	225.1000	634	0.3060	208.6000
434	0.3635	247.9000	635	0.2995	204.3000
435	0.3961	270.1000	636	0.2935	200.2000
436	0.4363	297.6000	637	0.2871	195.8000
437	0.4778	325.9000	638	0.2810	191.6000
438	0.5279	360.0000	639	0.2753	187.8000
439	0.5764	393.1000	640	0.2694	183.7000
440	0.6367	434.2000	641	0.2637	179.9000
441	0.6985	476.4000	642	0.2578	175.8000
442	0.7614	519.2000	643	0.2518	171.7000
443	0.8253	562.8000	644	0.2464	168.0000
444	0.8847	603.4000	645	0.2407	164.2000
445	0.9365	638.7000	646	0.2351	160.4000
446	0.9757	665.4000	647	0.2298	156.7000
447	0.9952	678.7000	648	0.2246	153.2000
448	0.9968	679.8000	649	0.2192	149.5000
449	0.9769	666.2000	650	0.2141	146.0000
450	0.9341	637.0000	651	0.2089	142.5000
451	0.8752	596.8000	652	0.2039	139.1000
452	0.8084	551.3000	653	0.1990	135.7000
453	0.7347	501.0000	654	0.1940	132.3000
454	0.6607	450.6000	655	0.1893	129.1000
455	0.5931	404.4000	656	0.1846	125.9000
456	0.5348	364.7000	657	0.1802	122.9000
457	0.4853	331.0000	658	0.1756	119.8000
458	0.4439	302.7000	659	0.1714	116.9000
459	0.4106	280.0000	660	0.1668	113.7000
460	0.3821	260.6000	661	0.1628	111.0000
461	0.3588	244.7000	662	0.1585	108.1000
462	0.3364	229.4000	663	0.1544	105.3000
463	0.3142	214.3000	664	0.1504	102.6000
464	0.2933	200.0000	665	0.1464	99.8100
465	0.2714	185.1000	666	0.1426	97.2800
466	0.2507	171.0000	667	0.1391	94.8300
467	0.2300	156.8000	668	0.1351	92.1100

468	0.2097	143.0000	669	0.1316	89.7300
469	0.1915	130.6000	670	0.1281	87.3400
470	0.1748	119.2000	671	0.1247	85.0300
471	0.1609	109.7000	672	0.1213	82.7200
472	0.1482	101.1000	673	0.1182	80.6100
473	0.1383	94.2900	674	0.1150	78.4000
474	0.1299	88.5800	675	0.1118	76.2500
475	0.1234	84.1600	676	0.1087	74.1000
476	0.1184	80.7300	677	0.1059	72.2100
477	0.1136	77.4900	678	0.1029	70.1700
478	0.1106	75.4500	679	0.1001	68.2500
479	0.1079	73.6000	680	0.0975	66.4700
480	0.1058	72.1600	681	0.0946	64.5400
481	0.1038	70.8000	682	0.0922	62.8800
482	0.1028	70.1100	683	0.0896	61.0900
483	0.1022	69.7100	684	0.0873	59.5500
484	0.1019	69.4800	685	0.0848	57.8200
485	0.1029	70.1600	686	0.0825	56.2500
486	0.1043	71.1100	687	0.0802	54.7000
487	0.1062	72.4000	688	0.0780	53.2100
488	0.1094	74.6300	689	0.0758	51.6800
489	0.1132	77.2100	690	0.0736	50.2100
490	0.1181	80.5200	691	0.0716	48.8100
491	0.1239	84.4700	692	0.0696	47.4500
492	0.1306	89.0500	693	0.0676	46.1000
493	0.1381	94.1600	694	0.0658	44.8600
494	0.1463	99.7600	695	0.0639	43.5600
495	0.1555	106.0000	696	0.0621	42.3800
496	0.1648	112.4000	697	0.0603	41.0900
497	0.1755	119.7000	698	0.0587	40.0200
498	0.1859	126.8000	699	0.0570	38.8400
499	0.1977	134.8000	700	0.0554	37.8100
500	0.2093	142.7000	701	0.0538	36.7000
501	0.2212	150.9000	702	0.0523	35.6500
502	0.2341	159.6000	703	0.0508	34.6800
503	0.2462	167.9000	704	0.0493	33.6100
504	0.2596	177.0000	705	0.0479	32.6800
505	0.2728	186.1000	706	0.0466	31.7600
506	0.2858	194.9000	707	0.0452	30.8600
507	0.2993	204.1000	708	0.0440	29.9800
508	0.3119	212.7000	709	0.0428	29.1800
509	0.3252	221.7000	710	0.0414	28.2600
510	0.3383	230.7000	711	0.0404	27.5300
511	0.3507	239.2000	712	0.0392	26.7400
512	0.3627	247.4000	713	0.0380	25.9400
513	0.3740	255.0000	714	0.0369	25.1700

514	0.3854	262.9000	715	0.0359	24.5000
515	0.3962	270.2000	716	0.0350	23.8400
516	0.4070	277.5000	717	0.0339	23.1500
517	0.4167	284.1000	718	0.0330	22.4900
518	0.4260	290.5000	719	0.0320	21.8400
519	0.4355	297.0000	720	0.0313	21.3300
520	0.4437	302.6000	721	0.0302	20.6200
521	0.4512	307.7000	722	0.0295	20.1100
522	0.4587	312.8000	723	0.0286	19.5000
523	0.4657	317.6000	724	0.0279	19.0000
524	0.4724	322.2000	725	0.0270	18.4400
525	0.4781	326.0000	726	0.0263	17.9500
526	0.4839	330.0000	727	0.0256	17.4700
527	0.4896	333.9000	728	0.0248	16.9400
528	0.4940	336.9000	729	0.0242	16.5400
529	0.4985	340.0000	730	0.0237	16.1300
530	0.5029	342.9000	731	0.0230	15.6700
531	0.5065	345.4000	732	0.0223	15.2200
532	0.5108	348.3000	733	0.0218	14.8700
533	0.5134	350.1000	734	0.0212	14.4500
534	0.5173	352.8000	735	0.0207	14.1100
535	0.5203	354.9000	736	0.0201	13.7200
536	0.5229	356.6000	737	0.0196	13.3900
537	0.5258	358.6000	738	0.0191	13.0500
538	0.5279	360.0000	739	0.0187	12.7400
539	0.5300	361.4000	740	0.0183	12.4900
540	0.5326	363.2000	741	0.0178	12.1700
541	0.5341	364.3000	742	0.0174	11.8700
542	0.5363	365.7000	743	0.0170	11.5700
543	0.5384	367.1000	744	0.0166	11.3100
544	0.5399	368.2000	745	0.0162	11.0200
545	0.5414	369.2000	746	0.0157	10.7200
546	0.5436	370.7000	747	0.0154	10.5100
547	0.5446	371.4000	748	0.0149	10.1900
548	0.5466	372.7000	749	0.0146	9.9770
549	0.5482	373.9000	750	0.0143	9.7350
550	0.5498	374.9000	751	0.0138	9.4030
551	0.5513	376.0000	752	0.0135	9.2200
552	0.5524	376.7000	753	0.0132	8.9820
553	0.5545	378.1000	754	0.0128	8.7540
554	0.5556	378.9000	755	0.0126	8.5820
555	0.5573	380.0000	756	0.0123	8.3550
556	0.5581	380.6000	757	0.0119	8.0980
557	0.5598	381.7000	758	0.0116	7.8950
558	0.5608	382.4000	759	0.0113	7.6950
559	0.5622	383.4000	760	0.0111	7.5690

560	0.5638	384.5000	761	0.0107	7.3310
561	0.5645	384.9000	762	0.0106	7.1960
562	0.5654	385.6000	763	0.0102	6.9740
563	0.5662	386.1000	764	0.0099	6.7650
564	0.5675	387.0000	765	0.0097	6.6160
565	0.5686	387.7000	766	0.0094	6.3770
566	0.5691	388.1000	767	0.0091	6.2190
567	0.5709	389.3000	768	0.0088	6.0140
568	0.5705	389.1000	769	0.0086	5.8750
569	0.5712	389.6000	770	0.0084	5.6970
570	0.5719	390.0000	771	0.0082	5.5700
571	0.5718	389.9000	772	0.0080	5.4230
572	0.5720	390.1000	773	0.0078	5.3170
573	0.5717	389.9000	774	0.0075	5.1180
574	0.5719	390.0000	775	0.0073	4.9810
575	0.5718	389.9000	776	0.0071	4.8420
576	0.5714	389.7000	777	0.0069	4.7170
577	0.5705	389.1000	778	0.0068	4.6350
578	0.5705	389.1000	779	0.0068	4.6440
579	0.5697	388.5000	780	0.0068	4.6520
580	0.5682	387.5000			



Spectral Energy Distribution(LOC-SPAL-MW(50/80/100/150)50KD-T2LV)

480V

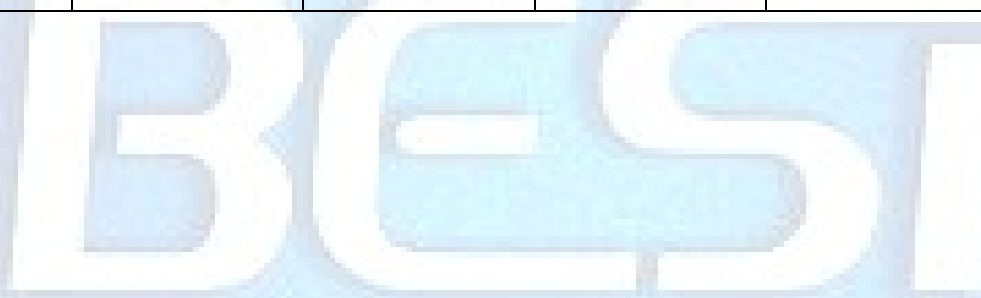
WL (nm)	Spectrum	Spectrum	WL (nm)	Spectrum	Spectrum
380	0.0377	25.6200	581	0.5701	387.0000
381	0.0336	22.8000	582	0.5688	386.2000
382	0.0325	22.0900	583	0.5673	385.1000
383	0.0308	20.9000	584	0.5656	384.0000
384	0.0280	19.0200	585	0.5639	382.8000
385	0.0257	17.4400	586	0.5619	381.4000
386	0.0240	16.3200	587	0.5599	380.1000
387	0.0222	15.0700	588	0.5571	378.2000
388	0.0215	14.6300	589	0.5546	376.5000
389	0.0194	13.1900	590	0.5520	374.8000
390	0.0178	12.0900	591	0.5488	372.5000
391	0.0177	11.9900	592	0.5455	370.3000
392	0.0159	10.7900	593	0.5416	367.7000
393	0.0146	9.8880	594	0.5388	365.8000
394	0.0145	9.8340	595	0.5350	363.2000
395	0.0139	9.4320	596	0.5308	360.3000
396	0.0130	8.8530	597	0.5263	357.3000
397	0.0126	8.5300	598	0.5231	355.1000
398	0.0123	8.3680	599	0.5180	351.7000
399	0.0121	8.1990	600	0.5138	348.8000
400	0.0123	8.3340	601	0.5090	345.5000
401	0.0125	8.4640	602	0.5040	342.2000
402	0.0124	8.4020	603	0.4985	338.4000
403	0.0132	8.9700	604	0.4934	334.9000
404	0.0137	9.2670	605	0.4888	331.8000
405	0.0145	9.8510	606	0.4835	328.3000
406	0.0159	10.7700	607	0.4778	324.4000
407	0.0172	11.7100	608	0.4720	320.4000
408	0.0191	12.9900	609	0.4670	317.0000
409	0.0214	14.5100	610	0.4609	312.9000
410	0.0244	16.5800	611	0.4553	309.1000
411	0.0275	18.6500	612	0.4486	304.5000
412	0.0312	21.1600	613	0.4428	300.6000
413	0.0353	23.9400	614	0.4369	296.6000
414	0.0404	27.4100	615	0.4309	292.5000
415	0.0461	31.2700	616	0.4244	288.1000
416	0.0523	35.5300	617	0.4181	283.8000
417	0.0599	40.6800	618	0.4117	279.5000
418	0.0672	45.6500	619	0.4050	274.9000
419	0.0761	51.6700	620	0.3989	270.8000
420	0.0852	57.8300	621	0.3922	266.2000
421	0.0959	65.0800	622	0.3857	261.8000

422	0.1082	73.4700	623	0.3787	257.1000
423	0.1203	81.6900	624	0.3726	252.9000
424	0.1347	91.4700	625	0.3661	248.5000
425	0.1503	102.1000	626	0.3596	244.1000
426	0.1668	113.2000	627	0.3526	239.4000
427	0.1860	126.2000	628	0.3462	235.0000
428	0.2054	139.5000	629	0.3399	230.8000
429	0.2276	154.5000	630	0.3334	226.3000
430	0.2509	170.3000	631	0.3267	221.8000
431	0.2763	187.6000	632	0.3206	217.6000
432	0.3034	206.0000	633	0.3141	213.3000
433	0.3334	226.3000	634	0.3077	208.9000
434	0.3655	248.1000	635	0.3013	204.6000
435	0.3981	270.3000	636	0.2949	200.2000
436	0.4376	297.1000	637	0.2890	196.2000
437	0.4784	324.8000	638	0.2831	192.2000
438	0.5269	357.7000	639	0.2771	188.1000
439	0.5761	391.1000	640	0.2710	184.0000
440	0.6342	430.5000	641	0.2652	180.0000
441	0.6942	471.3000	642	0.2593	176.1000
442	0.7554	512.8000	643	0.2537	172.2000
443	0.8192	556.1000	644	0.2476	168.1000
444	0.8782	596.1000	645	0.2422	164.4000
445	0.9308	631.9000	646	0.2370	160.9000
446	0.9708	659.0000	647	0.2314	157.1000
447	0.9924	673.7000	648	0.2259	153.4000
448	0.9965	676.5000	649	0.2208	149.9000
449	0.9821	666.7000	650	0.2155	146.3000
450	0.9418	639.4000	651	0.2102	142.7000
451	0.8872	602.3000	652	0.2053	139.3000
452	0.8218	557.9000	653	0.2003	136.0000
453	0.7491	508.6000	654	0.1956	132.8000
454	0.6758	458.8000	655	0.1908	129.5000
455	0.6082	412.9000	656	0.1862	126.4000
456	0.5484	372.3000	657	0.1814	123.2000
457	0.4970	337.4000	658	0.1770	120.2000
458	0.4546	308.6000	659	0.1723	116.9000
459	0.4204	285.4000	660	0.1681	114.1000
460	0.3908	265.3000	661	0.1638	111.2000
461	0.3659	248.4000	662	0.1597	108.4000
462	0.3435	233.2000	663	0.1556	105.6000
463	0.3214	218.2000	664	0.1516	102.9000
464	0.2997	203.4000	665	0.1477	100.2000
465	0.2783	188.9000	666	0.1438	97.6100
466	0.2571	174.5000	667	0.1400	95.0700
467	0.2363	160.4000	668	0.1361	92.4200

468	0.2159	146.5000	669	0.1328	90.1900
469	0.1973	134.0000	670	0.1292	87.7100
470	0.1804	122.4000	671	0.1256	85.2900
471	0.1655	112.4000	672	0.1223	83.0600
472	0.1528	103.7000	673	0.1193	80.9600
473	0.1425	96.7100	674	0.1160	78.7800
474	0.1336	90.7000	675	0.1130	76.7200
475	0.1266	85.9300	676	0.1098	74.5500
476	0.1211	82.2300	677	0.1069	72.5500
477	0.1168	79.3100	678	0.1039	70.5300
478	0.1132	76.8700	679	0.1012	68.6700
479	0.1103	74.9100	680	0.0983	66.7100
480	0.1079	73.2500	681	0.0956	64.9200
481	0.1063	72.1800	682	0.0929	63.0500
482	0.1049	71.2200	683	0.0904	61.3400
483	0.1043	70.8200	684	0.0879	59.6700
484	0.1043	70.7800	685	0.0858	58.2600
485	0.1050	71.2600	686	0.0833	56.5300
486	0.1061	72.0000	687	0.0809	54.9000
487	0.1082	73.4300	688	0.0788	53.5100
488	0.1112	75.5200	689	0.0767	52.0900
489	0.1149	77.9900	690	0.0745	50.5600
490	0.1199	81.3700	691	0.0724	49.1300
491	0.1256	85.2700	692	0.0702	47.6800
492	0.1323	89.7800	693	0.0684	46.4700
493	0.1396	94.7900	694	0.0664	45.0900
494	0.1478	100.4000	695	0.0645	43.7900
495	0.1567	106.3000	696	0.0627	42.5800
496	0.1662	112.9000	697	0.0611	41.4700
497	0.1765	119.8000	698	0.0593	40.2300
498	0.1872	127.1000	699	0.0576	39.1000
499	0.1987	134.9000	700	0.0560	38.0000
500	0.2103	142.7000	701	0.0543	36.8700
501	0.2223	150.9000	702	0.0527	35.7700
502	0.2347	159.4000	703	0.0514	34.8800
503	0.2477	168.2000	704	0.0498	33.8300
504	0.2606	176.9000	705	0.0484	32.8700
505	0.2735	185.6000	706	0.0469	31.8200
506	0.2868	194.7000	707	0.0458	31.0600
507	0.2998	203.5000	708	0.0444	30.1400
508	0.3126	212.2000	709	0.0432	29.3000
509	0.3262	221.5000	710	0.0419	28.4600
510	0.3387	229.9000	711	0.0408	27.7000
511	0.3516	238.7000	712	0.0397	26.9400
512	0.3633	246.6000	713	0.0386	26.2000
513	0.3746	254.3000	714	0.0374	25.4100

514	0.3868	262.6000	715	0.0364	24.7200
515	0.3977	270.0000	716	0.0353	23.9600
516	0.4080	277.0000	717	0.0344	23.3700
517	0.4180	283.7000	718	0.0335	22.7100
518	0.4273	290.0000	719	0.0325	22.0500
519	0.4370	296.6000	720	0.0316	21.4300
520	0.4450	302.1000	721	0.0306	20.8000
521	0.4527	307.3000	722	0.0298	20.2100
522	0.4602	312.4000	723	0.0290	19.6900
523	0.4672	317.2000	724	0.0282	19.1300
524	0.4743	322.0000	725	0.0274	18.6100
525	0.4799	325.8000	726	0.0267	18.1500
526	0.4854	329.5000	727	0.0259	17.6000
527	0.4909	333.3000	728	0.0251	17.0700
528	0.4966	337.1000	729	0.0245	16.6500
529	0.5011	340.2000	730	0.0239	16.2400
530	0.5053	343.0000	731	0.0233	15.8100
531	0.5087	345.4000	732	0.0226	15.3400
532	0.5128	348.1000	733	0.0220	14.9600
533	0.5158	350.1000	734	0.0215	14.5900
534	0.5200	353.0000	735	0.0208	14.1500
535	0.5235	355.4000	736	0.0204	13.8800
536	0.5255	356.7000	737	0.0199	13.4900
537	0.5282	358.5000	738	0.0194	13.1900
538	0.5310	360.5000	739	0.0190	12.8800
539	0.5326	361.6000	740	0.0184	12.5200
540	0.5346	362.9000	741	0.0180	12.2500
541	0.5376	365.0000	742	0.0176	11.9200
542	0.5397	366.4000	743	0.0172	11.6500
543	0.5414	367.5000	744	0.0168	11.3800
544	0.5431	368.7000	745	0.0164	11.1200
545	0.5449	369.9000	746	0.0160	10.8400
546	0.5466	371.0000	747	0.0155	10.5600
547	0.5478	371.9000	748	0.0152	10.3200
548	0.5497	373.2000	749	0.0149	10.0800
549	0.5512	374.2000	750	0.0144	9.8060
550	0.5528	375.3000	751	0.0141	9.5610
551	0.5545	376.4000	752	0.0137	9.3140
552	0.5559	377.4000	753	0.0133	9.0480
553	0.5577	378.6000	754	0.0130	8.8210
554	0.5593	379.7000	755	0.0127	8.6320
555	0.5602	380.3000	756	0.0124	8.4000
556	0.5617	381.3000	757	0.0120	8.1490
557	0.5632	382.3000	758	0.0117	7.9740
558	0.5643	383.1000	759	0.0115	7.8390
559	0.5653	383.7000	760	0.0113	7.6700

560	0.5670	384.9000	761	0.0110	7.4580
561	0.5682	385.7000	762	0.0107	7.2870
562	0.5690	386.3000	763	0.0104	7.0820
563	0.5699	386.9000	764	0.0101	6.8830
564	0.5710	387.6000	765	0.0098	6.6600
565	0.5718	388.2000	766	0.0095	6.4690
566	0.5728	388.9000	767	0.0093	6.2920
567	0.5738	389.5000	768	0.0090	6.1210
568	0.5738	389.5000	769	0.0088	5.9590
569	0.5747	390.2000	770	0.0085	5.7990
570	0.5753	390.5000	771	0.0083	5.6420
571	0.5756	390.7000	772	0.0081	5.4970
572	0.5752	390.5000	773	0.0079	5.3870
573	0.5753	390.5000	774	0.0076	5.1920
574	0.5752	390.5000	775	0.0074	5.0370
575	0.5756	390.7000	776	0.0072	4.8890
576	0.5749	390.3000	777	0.0071	4.8270
577	0.5741	389.8000	778	0.0069	4.6730
578	0.5733	389.2000	779	0.0069	4.6800
579	0.5725	388.6000	780	0.0069	4.6890
580	0.5714	387.9000			



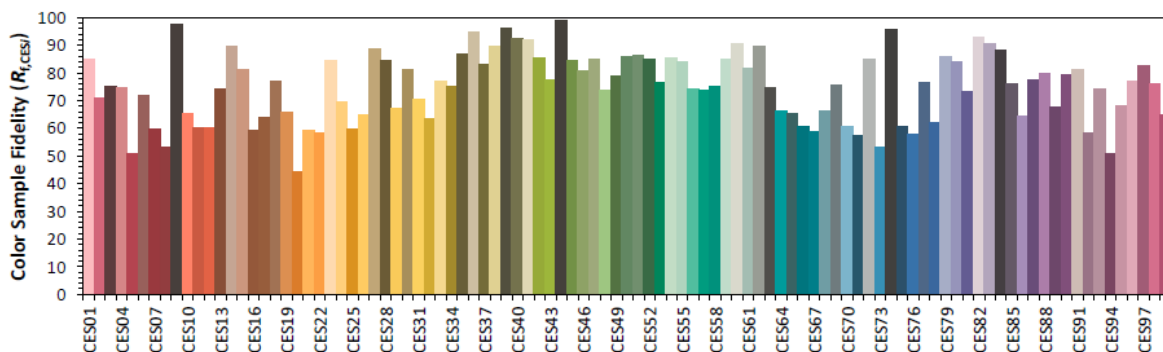
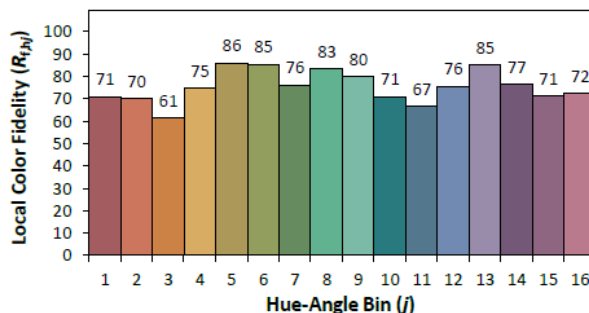
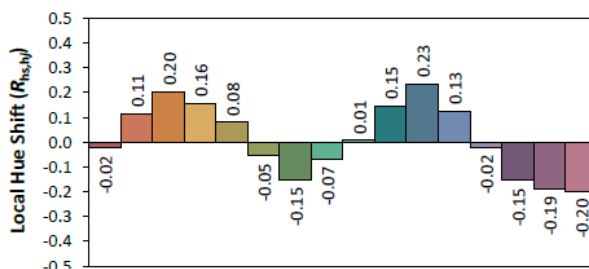
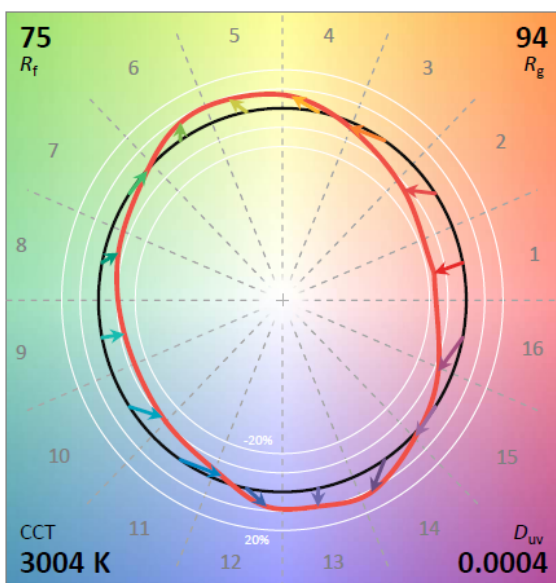
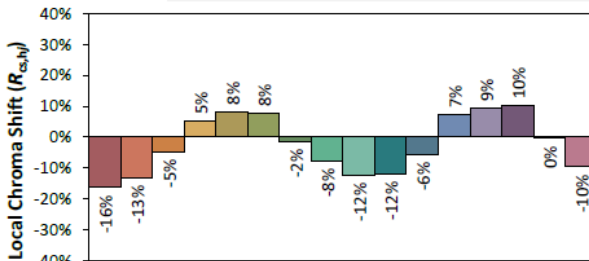
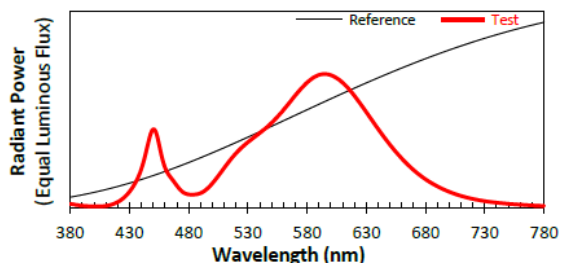
IES-TM-30-18 Report

347V

ANSI/IES TM-30-18 Color Rendition Report

Source: Roadway Luminaires
 Date:

Manufacturer: LED One Corporation
 Model: LOC-SPAL-MW(50/80/100/150)30KD-T2LV



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4372
 y 0.4052
 u' 0.2503
 v' 0.5219

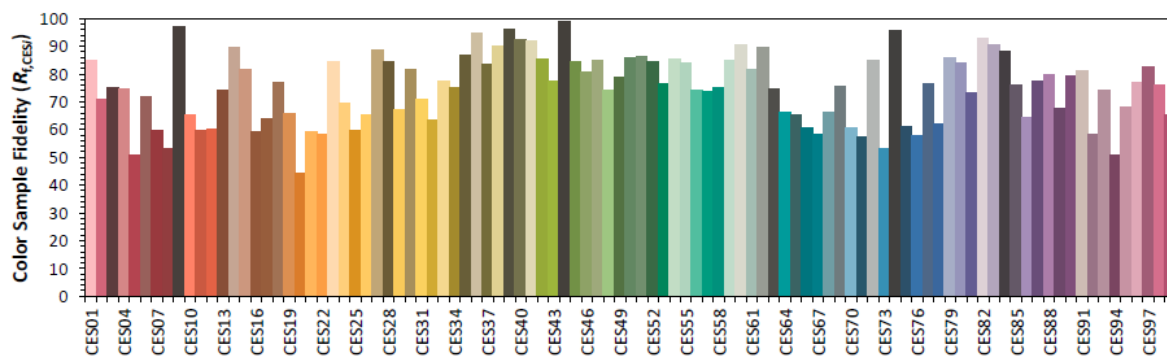
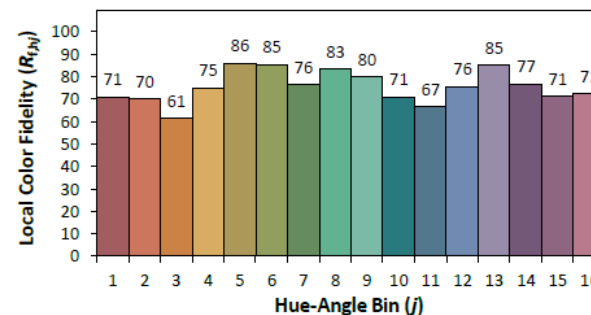
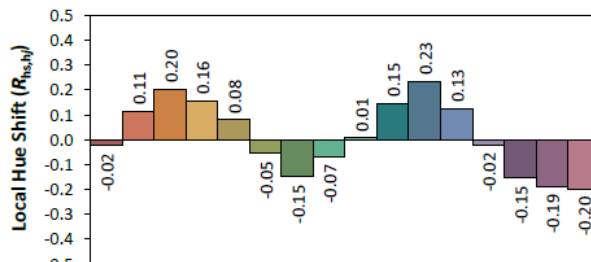
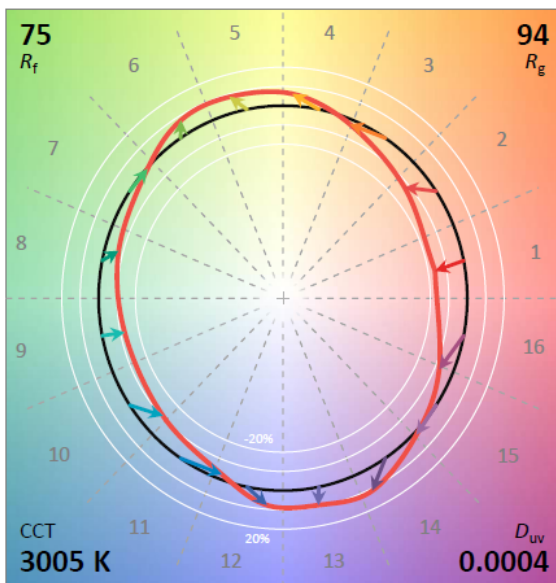
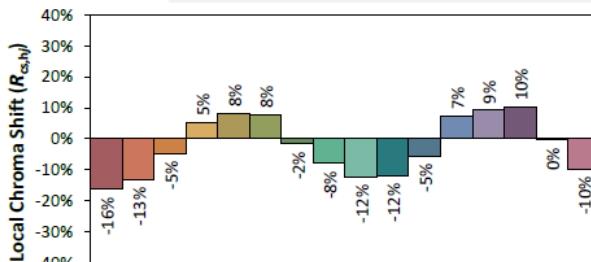
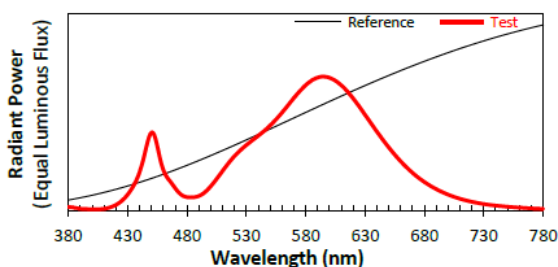
CIE 13.3-1995 (CRI)	
R_a	72
R_g	-31

480V

ANSI/IES TM-30-18 Color Rendition Report

Source: Roadway Luminaires
 Date:

Manufacturer: LED One Corporation
 Model: LOC-SPAL-MW (50/80/100/150) 30KD-T2LV



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4371
 y 0.4050
 u' 0.2503
 v' 0.5218

CIE 13.3-1995 (CRI)	
R_a	72
R_g	-31

347V

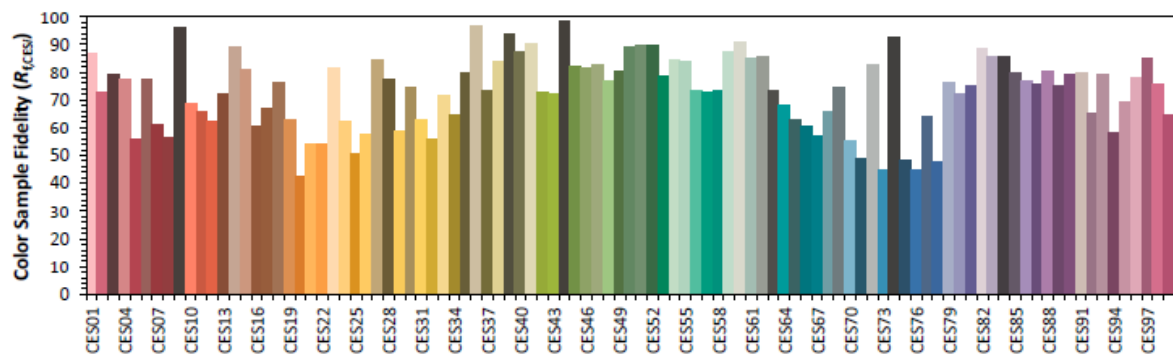
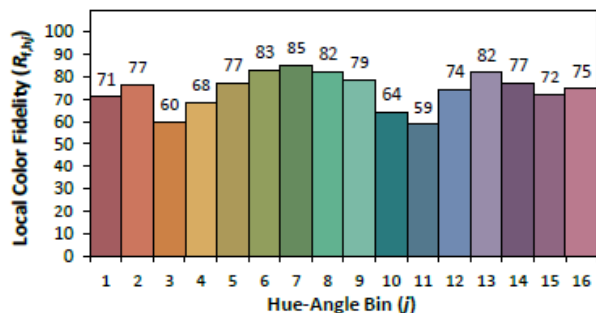
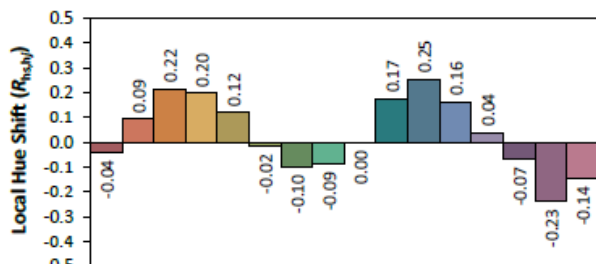
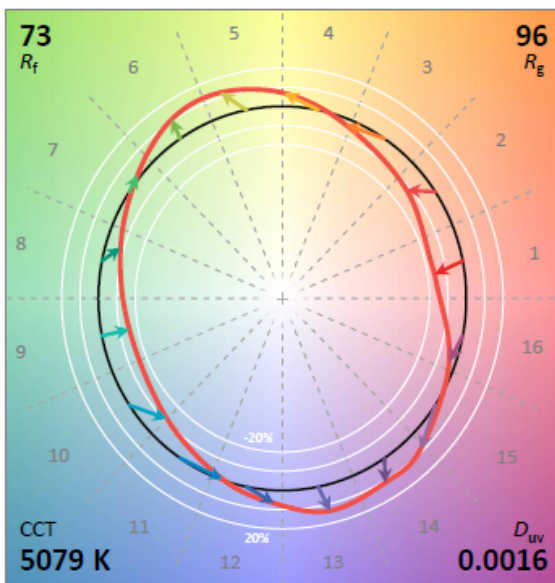
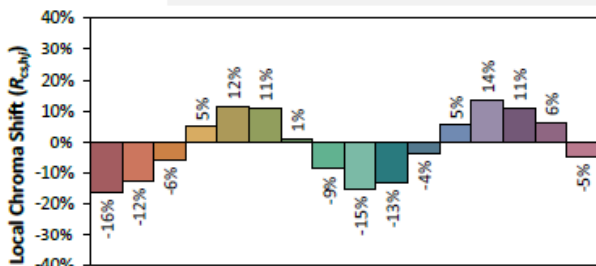
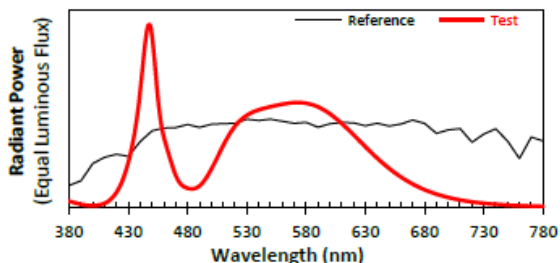
ANSI/IES TM-30-18 Color Rendition Report

Source: Roadway Luminaires

Manufacturer: LED One Corporation

Date:

Model: LOC-SPAL-MW(50/80/100/150)50KD-T2LV



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3432
 y 0.3532
 u' 0.2095
 v' 0.4852

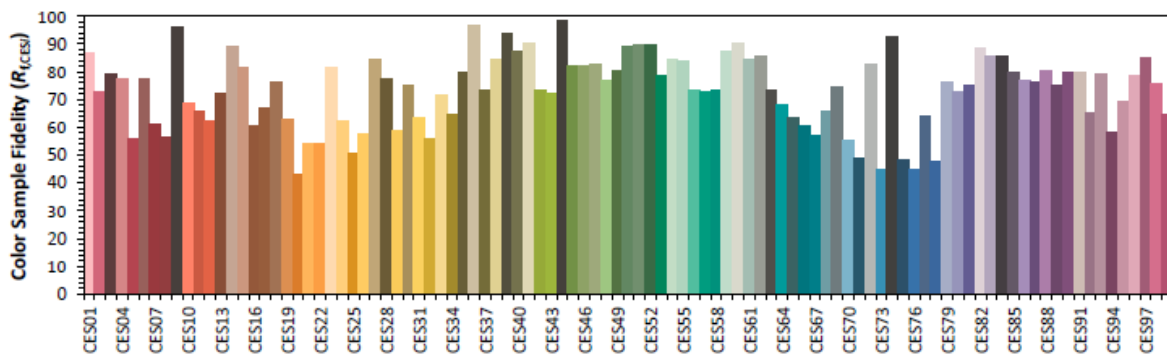
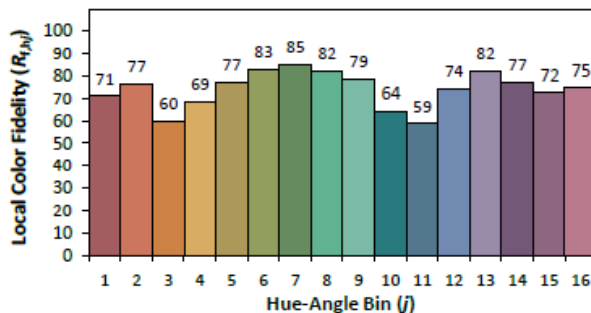
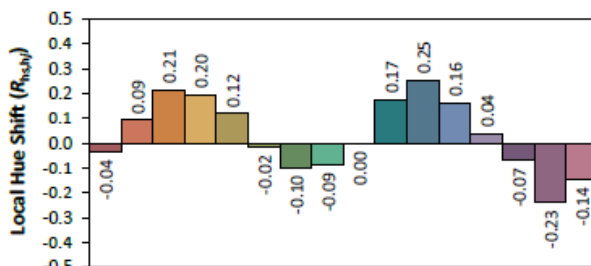
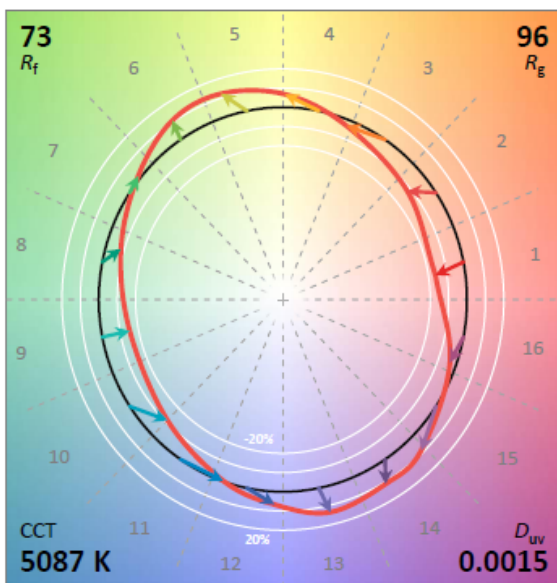
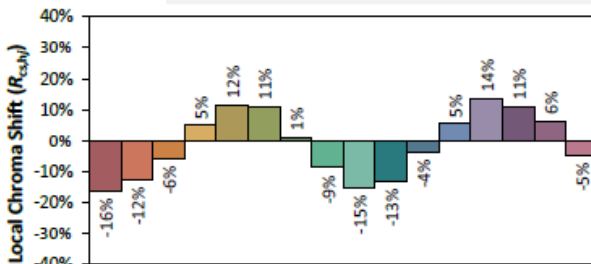
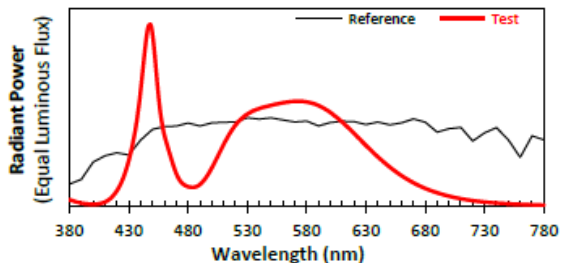
CIE 13.3-1995 (CRI)	
R_a	73
R_g	-25

480V

ANSI/IES TM-30-18 Color Rendition Report

Source: Roadway Luminaires
 Date:

Manufacturer: LED One Corporation
 Model: LOC-SPAL-MW (50/80/100/150) 50KD-T2LV

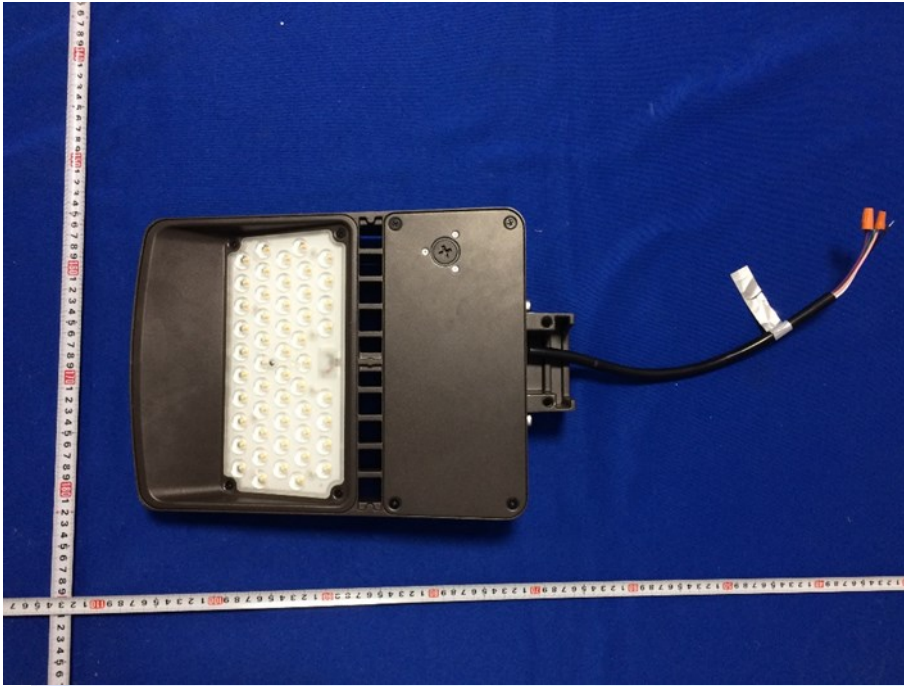


Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3429
 y 0.3528
 u' 0.2095
 v' 0.4849

CIE 13.3-1995 (CRI)
 R_a 73
 R_g -25

EUT Photo



Equipment list			
B187	Aux Lamp DC Source	N/A	N/A
B073	Standard Light Source	2019/8/26	Every 50 hours life
B186	Digital CC&CV DC Power Supply	2022/7/15	2023/7/14
B059	Second Meter	2022/7/18	2023/7/17
B178	Spectroradio Meter	Calibrated before measurement	N/A
B174	Integral Sphere	Calibrated before measurement	N/A
B188	AC Source	Calibrated before measurement	N/A
B087	Digital Power Meter	2022/7/15	2023/7/14
B161	Temperature Meter	2022/7/15	2023/7/14
B184	Aux Lamp DC Source	N/A	N/A
B045	Temperature Meter	2022/7/15	2023/7/14
B015	AC Power Source	Calibrated before measurement	N/A
B133	Goniophotometer	Calibrated before measurement	N/A
B181	Spectroradio Meter	Calibrated before measurement	N/A
B084	Digital Power Meter	2022/7/15	2023/7/14
B232	Standard Light Source	2017/4/13	Every 50hours life
B144	Digital CC&CV DC Power Supply	2022/7/15	2023/7/14
B250	Air Flow Meter	2022/7/23	2023/7/22

Uncertainty of Measure item		
NO.	Measure item	Uncertainty
1	Temperature	±0.4℃
2	AC Voltage	±0.1%
3	AC Current	±0.14%
4	Power≥1W	±0.17%
5	Power < 1W	±0.02W
6	luminous flux(ϕ)	±1.6%
7	CCT	±15K
8	CRI(Ra)	±0.2
9	Beam Angle	±1°
10	DC Voltage	±0.07%
11	DC Current	±0.03%
12	Starting Time	±0.005ms
13	Life Time	±0.2h

Annex

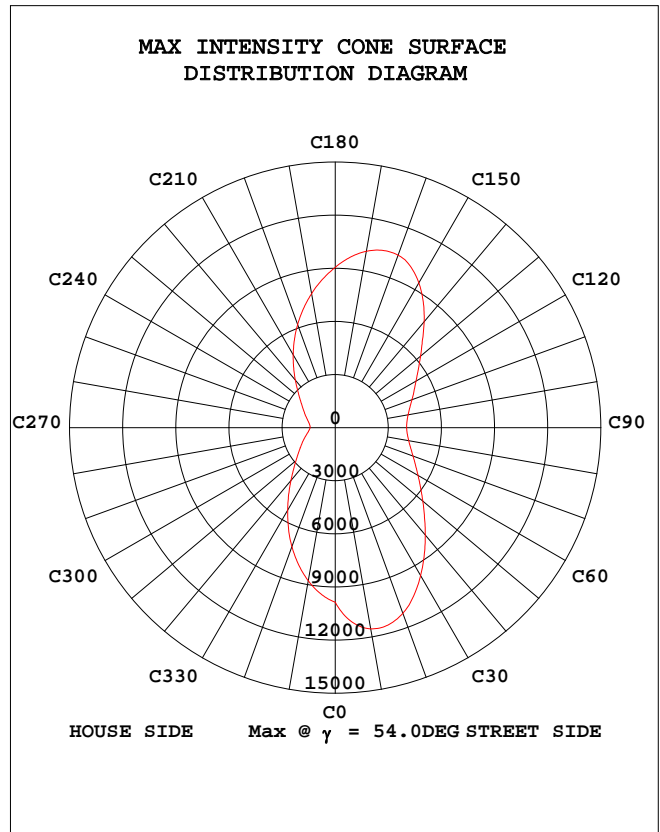
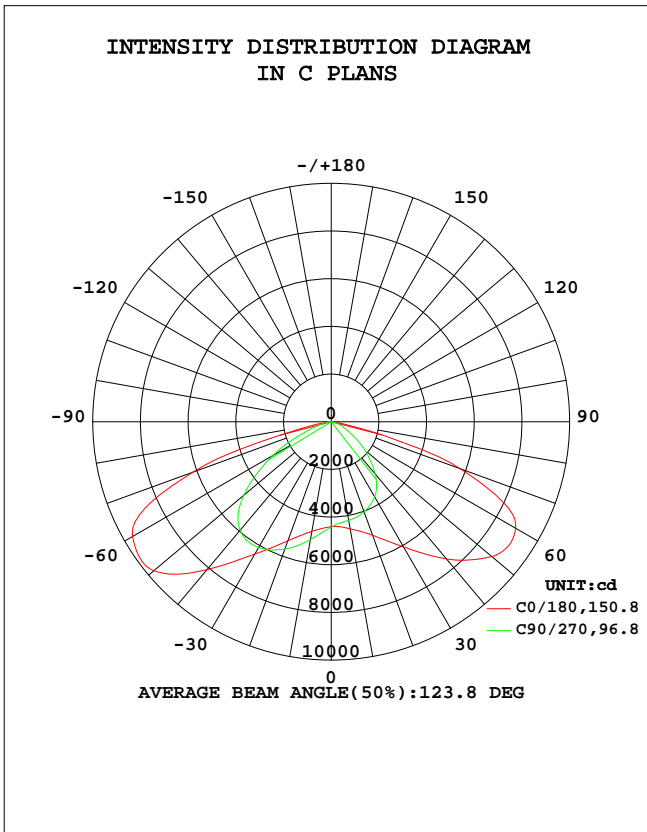
Please see the next page for the luminous intensity test data

-----END-----

STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/150)30KD-T2LV	MODEL: 4227-g
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 154.85 lm/W			
LOC-SPAL-MW(50/80/100/150)30KD-T2LV		Imax(cd)	10863	η street_up(%)	0.0
NOMINAL POWER(W)	150.0	LOR(%)	100.0	η street_down(%)	61.7
RATED VOLTAGE(V)	347	TOTAL FLUX(lm)	23026	η house_up(%)	0.0
NOMINAL FLUX(lm)	23026	MAXIMUM @(C, γ)	23,54.0	η house_down(%)	38.3
LAMPS INSIDE	1	η up(%)	0.0	76 FLASHAREA(m2)	0.00100
TEST VOLTAGE(V)	347	η down(%)	100.0	SLI	20.743

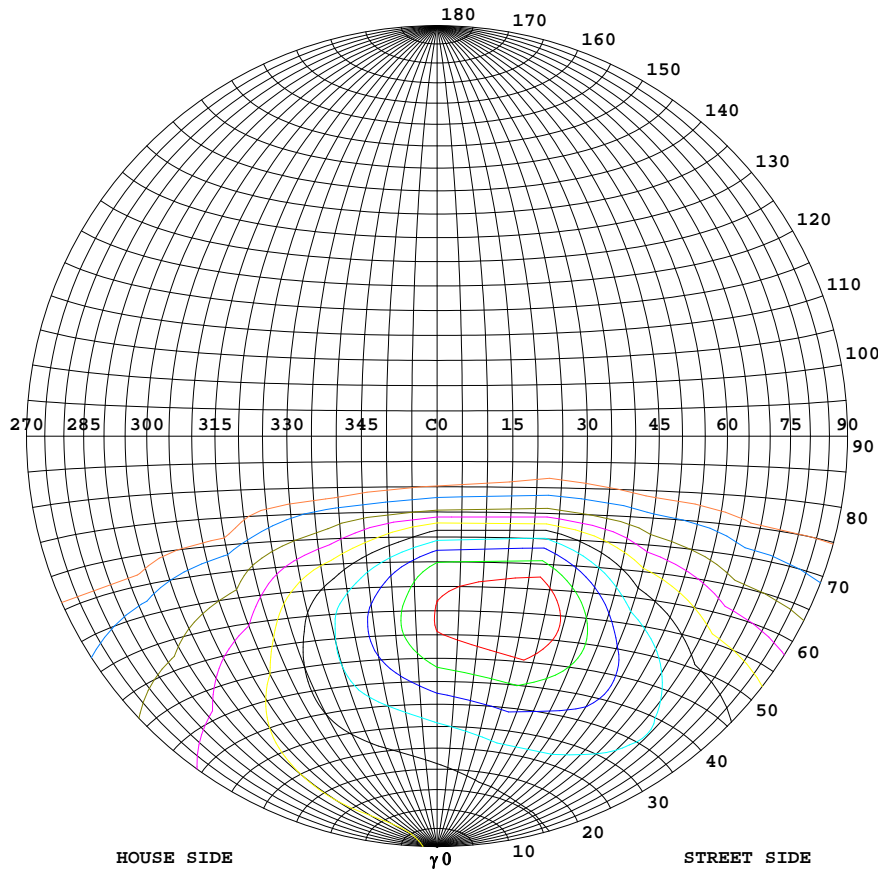


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.27kg	MODEL: 5030K-4.27kg
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



Classification:

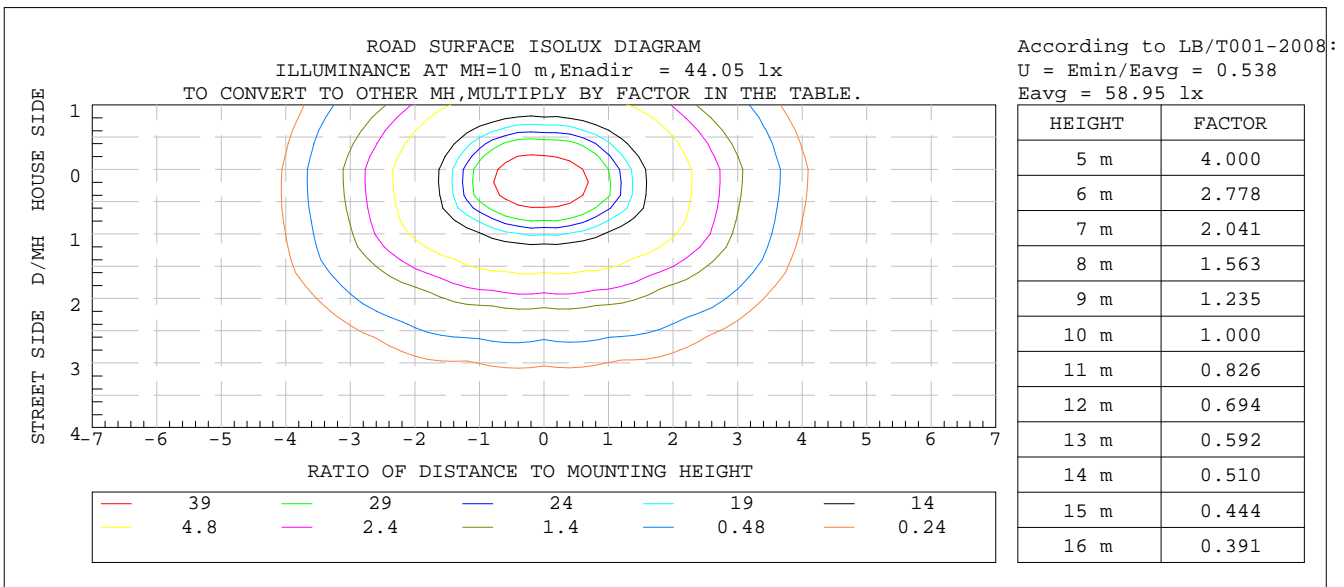
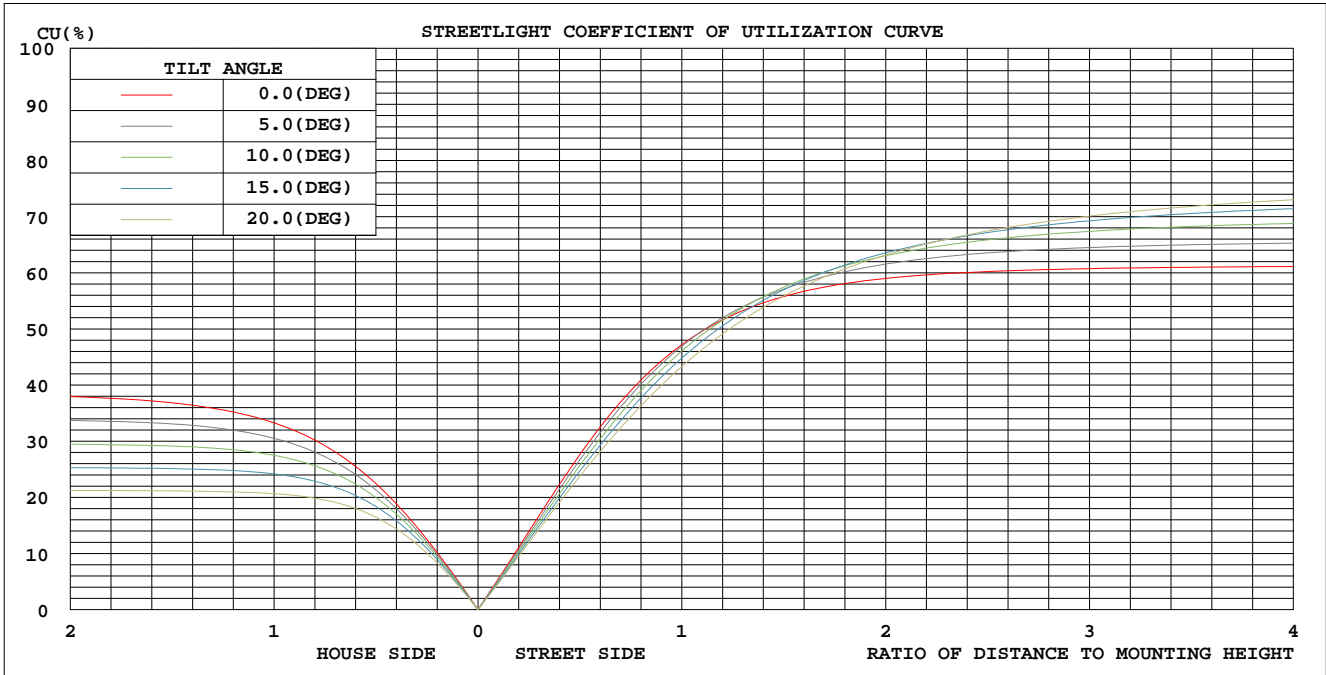
IES:Type II - Short
 CIE:Narrow - Short
 IES:Full cut-off
 CIE:Semi-cut-off
 Max.At80:34.22cd/klm
 Max.At90:0cd/klm
 Max.80-90:34.22cd/klm
 NRB 5101:Limited[8.4%]

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	10863
90%	9777
80%	8690
70%	7604
60%	6518
50%	5431
40%	4345
30%	3259
20%	2173
10%	1086
5%	543

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jonathan
Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity: 65.0%
Test Distance: 2.554m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.27kg	
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

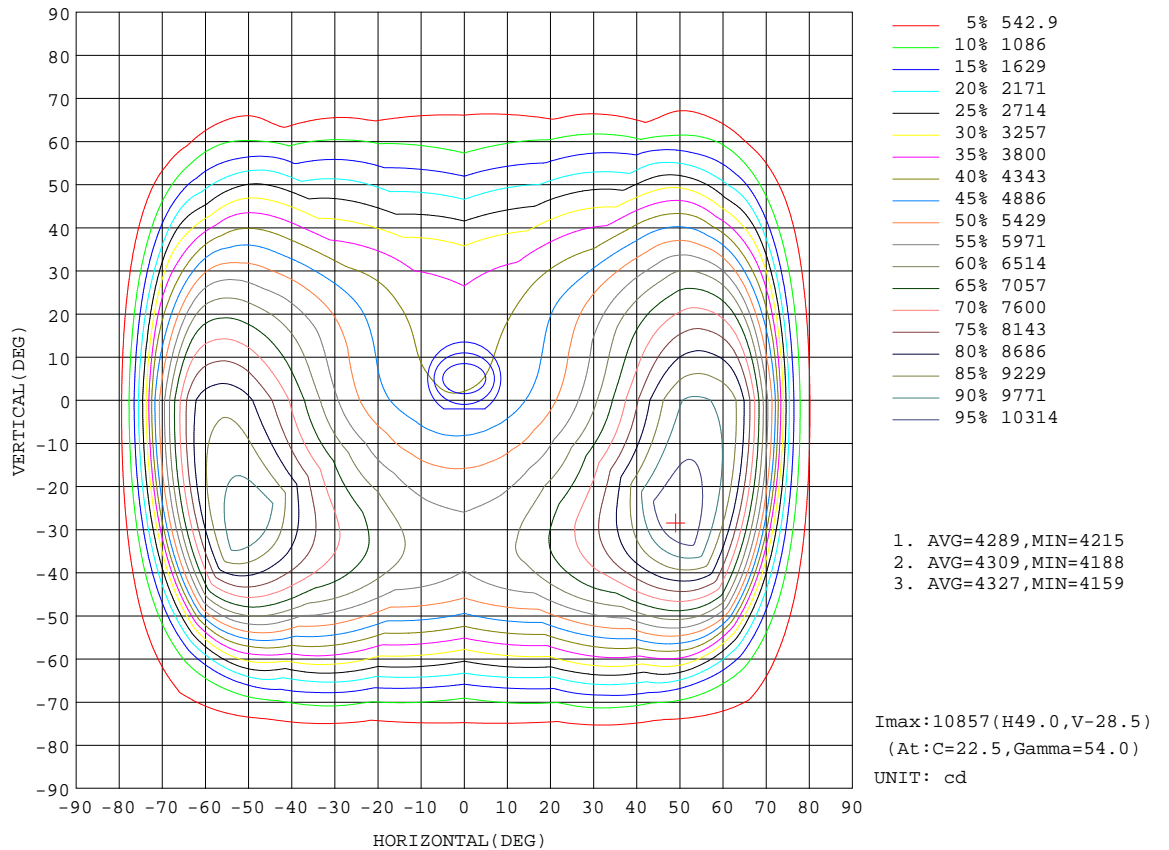
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum,lamp
10	466.8	496.1	501.9	487.5	456.0	429.0	419.8	438.1	0- 10	431.4	431.4	1.87,1.87
20	531.2	580.4	568.3	566.0	506.9	444.0	402.6	459.3	10- 20	1377	1809	7.86,7.86
30	640.7	683.6	609.1	662.9	606.7	463.7	364.0	484.6	20- 30	2490	4299	18.7,18.7
40	808.7	773.8	594.6	746.2	750.9	435.6	287.3	465.0	30- 40	3717	8015	34.8,34.8
50	972.5	764.8	479.0	742.4	879.1	348.7	182.3	384.0	40- 50	4748	12763	55.4,55.4
60	961.9	591.7	281.6	578.4	893.4	216.4	85.46	240.9	50- 60	5011	17774	77.2,77.2
70	616.5	278.3	96.43	255.4	572.5	59.10	39.41	74.33	60- 70	3855	21629	93.9,93.9
80	57.53	40.95	15.90	39.86	41.35	9.387	6.063	11.50	70- 80	1300	22929	99.6,99.6
90	0	0	0	0	0	0	0	0	80- 90	97.38	23026	100,100
100	0	0	0	0	0	0	0	0	90-100	0	23026	100,100
110	0	0	0	0	0	0	0	0	100-110	0	23026	100,100
120	0	0	0	0	0	0	0	0	110-120	0	23026	100,100
130	0	0	0	0	0	0	0	0	120-130	0	23026	100,100
140	0	0	0	0	0	0	0	0	130-140	0	23026	100,100
150	0	0	0	0	0	0	0	0	140-150	0	23026	100,100
160	0	0	0	0	0	0	0	0	150-160	0	23026	100,100
170	0	0	0	0	0	0	0	0	160-170	0	23026	100,100
180	0	0	0	0	0	0	0	0	170-180	0	23026	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

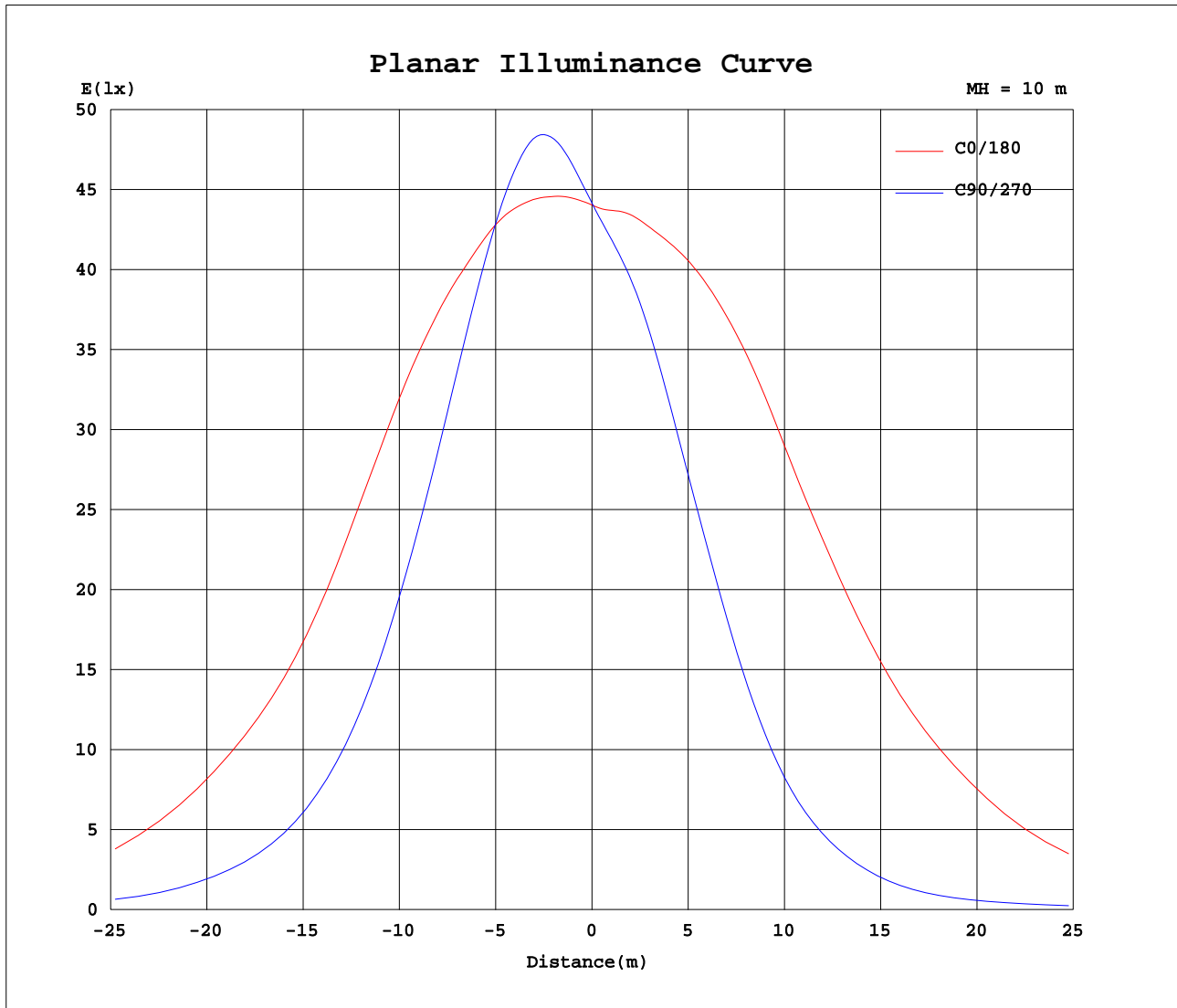
Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160)30K-4.27kg	MODEL: 4.27kg
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jonathan
Test Date:2023-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:2.554m [K=1.0000]
Remarks:

Planar Illuminance Curve



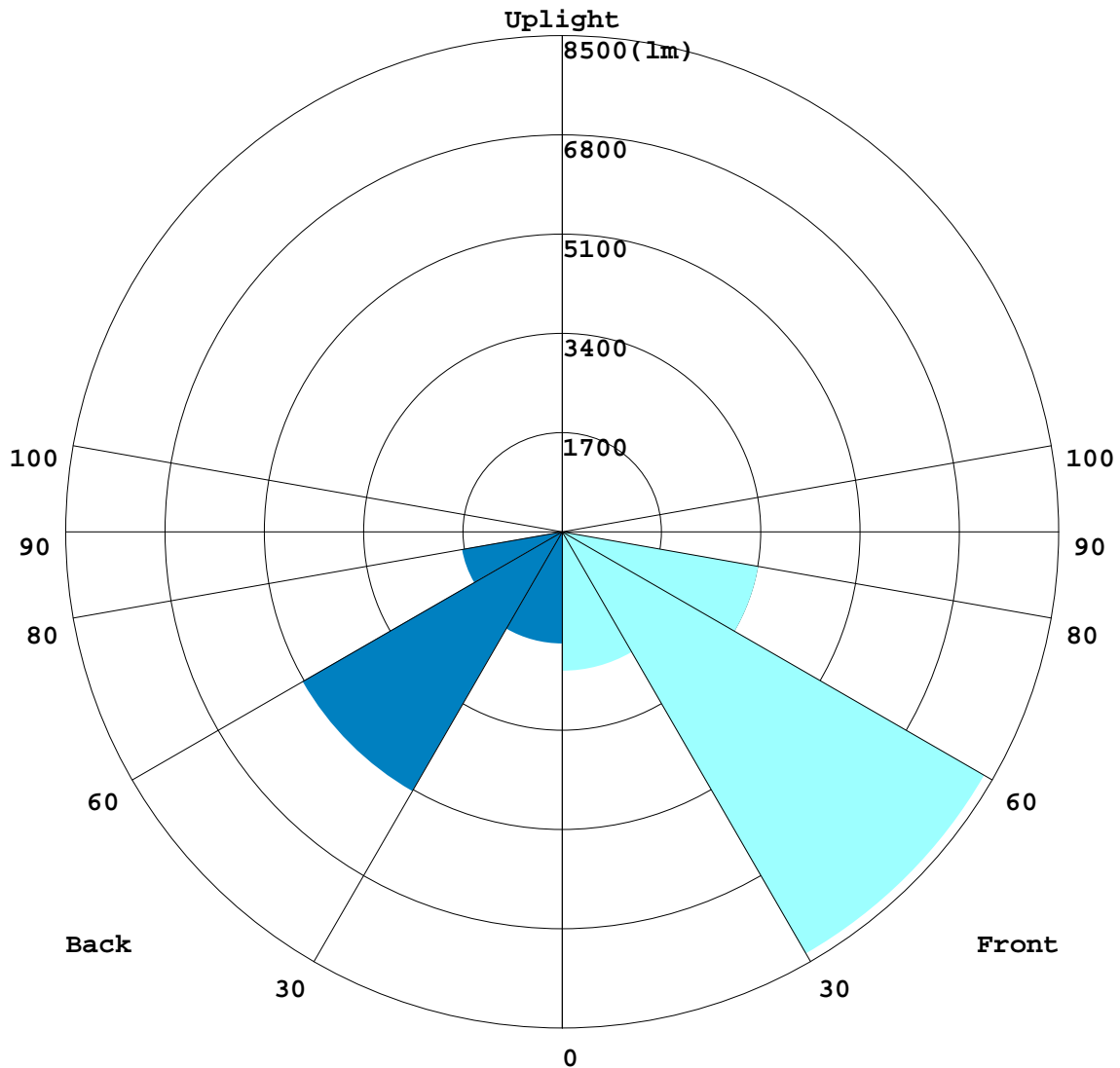
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

LCS REPORT

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz		
Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SMD-4.27kg	MODEL: 4.27kg
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

BUG REPORT

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.27kg	
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	2383.1	10.3
FM - Front-Medium(30-60)	8344.2	36.2
FH - Front-High(60-80)	3413.9	14.8
FVH - Front-Very High(80-90)	64.688	0.3
Total Forward Light	14206	61.7

BL - Back-Low(0-30)	1915.5	8.3
BM - Back-Medium(30-60)	5131.1	22.3
BH - Back-High(60-80)	1740.8	7.6
BVH - Back-Very High(80-90)	32.695	0.1
Total Back Light	8820.1	38.3

UL - Uplight-Low(90-100)	0	0.0
UH - Uplight-High(100-180)	0	0.0
Total Up Light	0	0.0

BUG(Back,Up,Glare) Rating	B4-U0-G3
---------------------------	----------

Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	8820.1	0	8820.1
Street Side	14206	0	14206

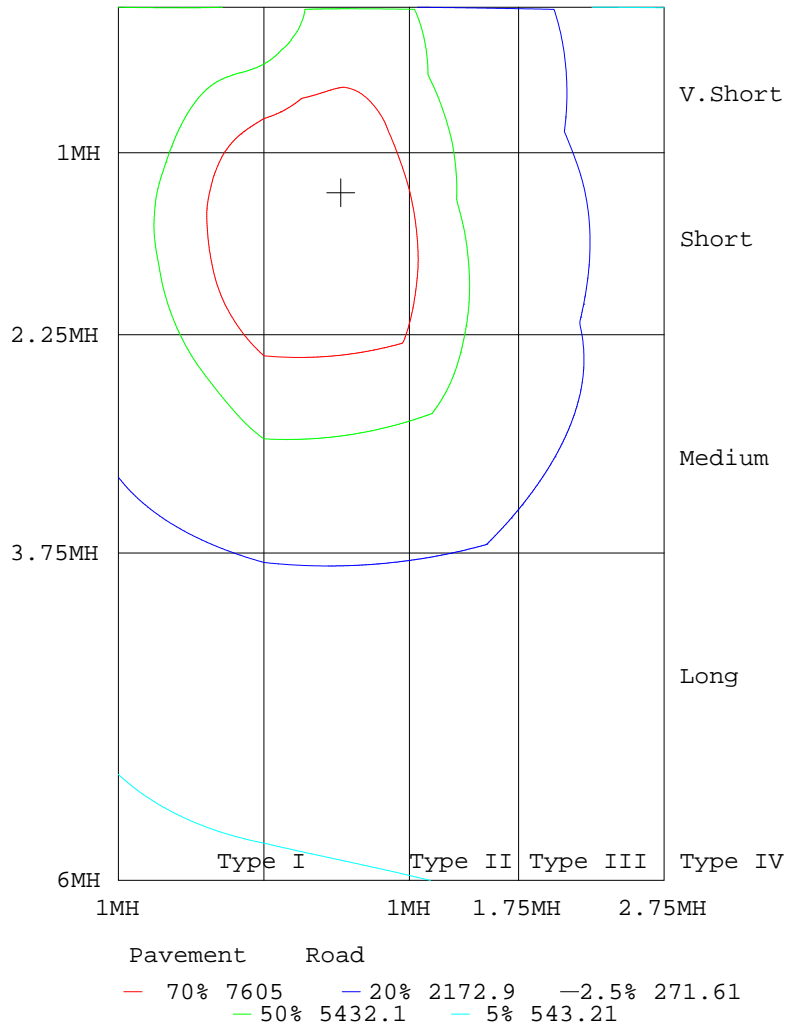
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jonathan
Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:2.554m [K=1.0000]
Remarks:

ROAD ISOCANDELA REPORT

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160/200/270/360/420)g	
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

ROAD SURFACE ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:347.03V I:0.4325A P:148.70W PF:0.9927 Freq:60.00Hz Lamp Flux:23026x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.27kg	
SPEC.: 150.0W 21000lm	DIM.: W=0.275,L=0.35	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

Table--1

UNIT: x10cd

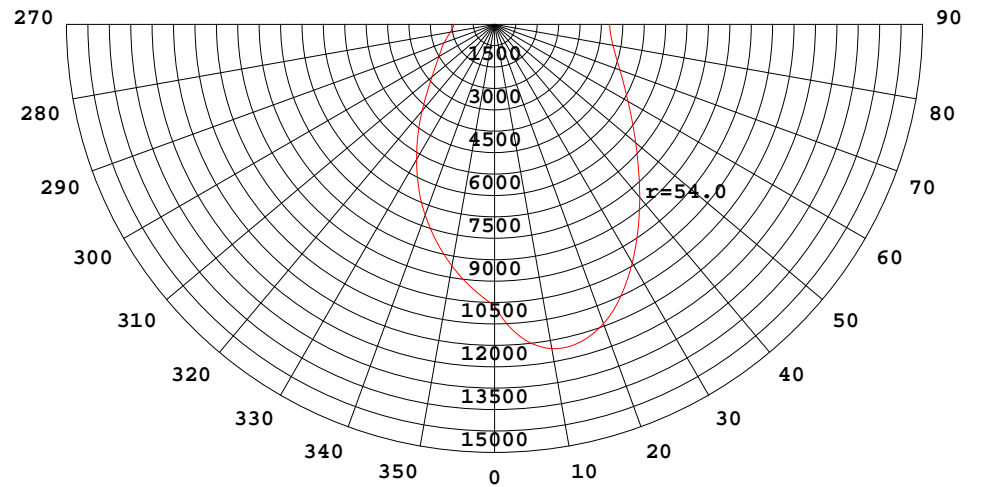
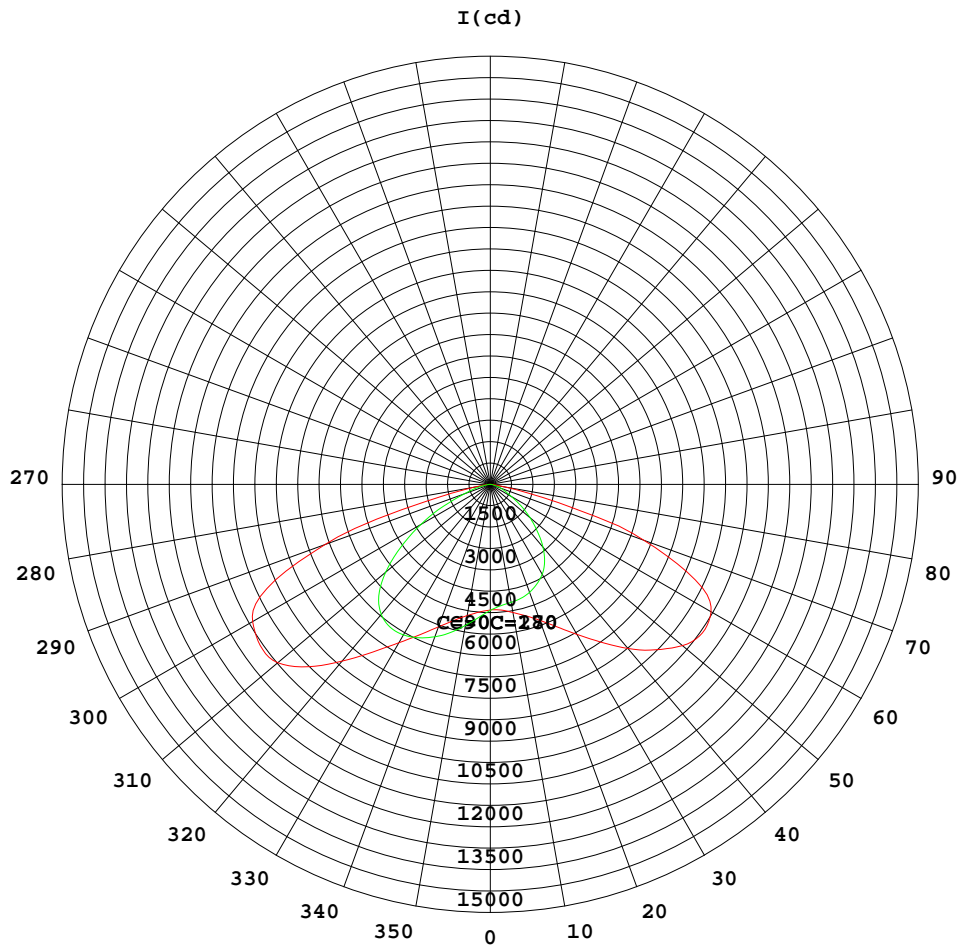
C(DEG)\ γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	440	441	441	442	442	442	442	442	440	441	441	442	442	442	442	442			
5	449	457	464	467	468	465	459	452	442	435	430	427	427	430	435	442			
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15	494	520	535	539	537	532	523	506	476	452	433	418	414	426	447	468			
20	531	568	580	575	568	568	566	548	507	476	444	413	403	423	459	496			
25	581	626	631	607	593	599	614	599	550	509	457	403	386	415	474	532			
30	641	694	684	635	609	627	663	661	607	547	464	388	364	399	485	576			
35	717	776	736	654	611	646	711	734	675	582	458	364	332	375	482	620			
40	809	871	774	651	595	644	746	819	751	607	436	325	287	339	465	658			
45	904	971	785	619	553	610	760	909	820	617	398	275	234	294	433	681			
50	972	1052	765	554	479	546	742	989	879	606	349	223	182	242	384	683			
55	984	1086	696	463	383	457	680	1030	908	577	289	173	132	186	319	666			
60	962	1034	592	356	282	353	578	999	893	519	216	123	85.5	132	241	595			
65	864	895	455	239	181	237	441	865	793	409	140	69.5	58.4	77.8	166	461			
70	616	659	278	136	96.4	132	255	615	573	250	59.1	32.9	39.4	33.7	74.3	284			
75	238	274	129	59.3	52.4	57.2	116	244	247	109	23.8	17.1	21.9	17.7	26.3	130			
80	57.5	78.8	41.0	20.7	15.9	18.7	39.9	71.5	41.4	36.4	9.39	6.09	6.06	6.67	11.5	34.7			
85	10.2	13.3	6.16	3.82	0.48	0.99	8.12	11.8	8.78	8.03	0.48	0.25	0.15	0.29	1.87	9.40			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

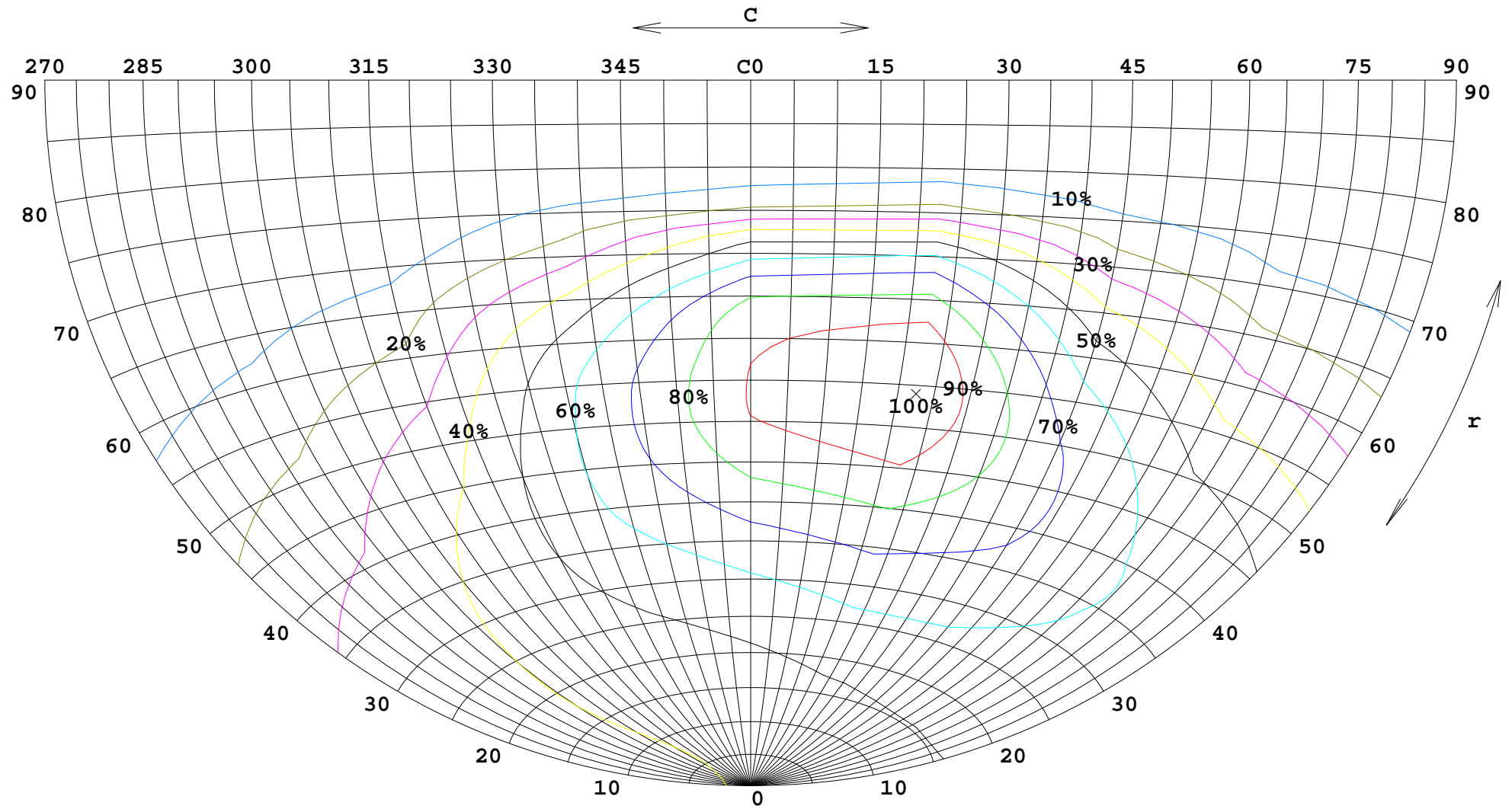
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

FLUX DATA:

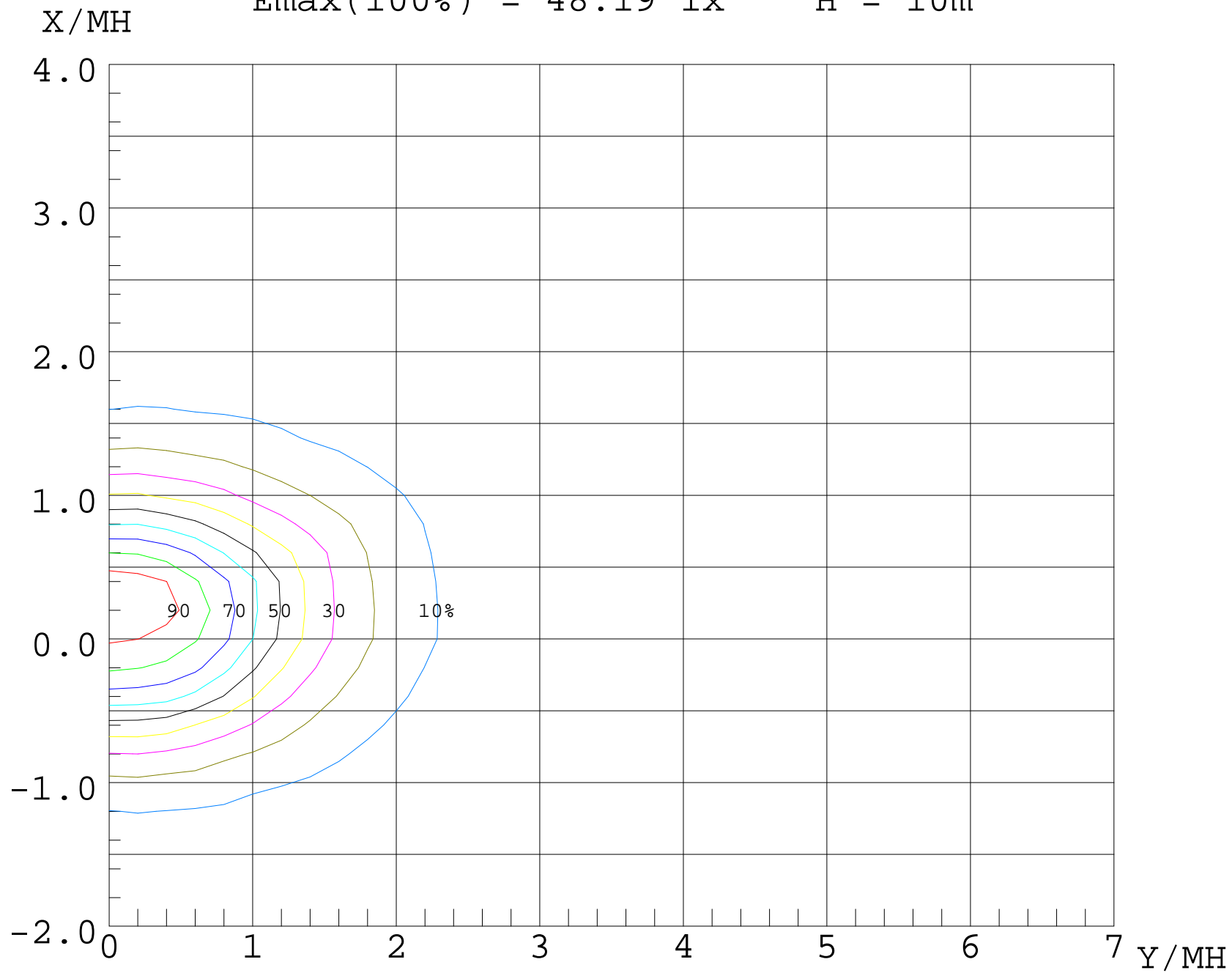
LOR: 100.0 %
 STREET DOWN: 14206 lm
 STREET UP: 0 lm
 HOUSE DOWN: 8820 lm
 HOUSE UP: 0 lm



$I_{\max}(100\%) = 10863 \text{ cd}$



$E_{\max}(100\%) = 48.19 \text{ lx}$ $H = 10\text{m}$



UF (%)

80

70

60

50

40

30

20

10

0

-2

-1

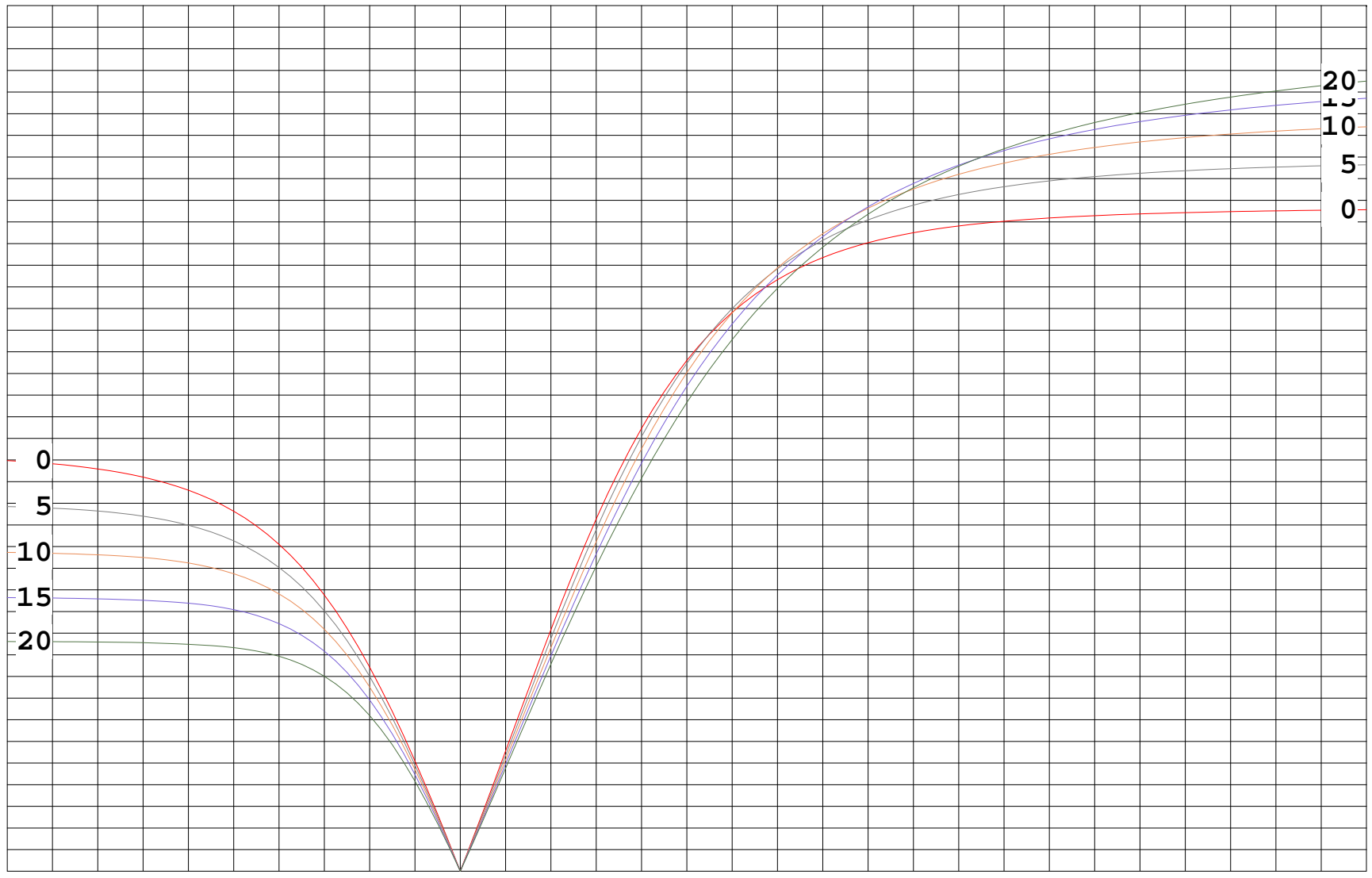
0

1

2

3

4 X/MH



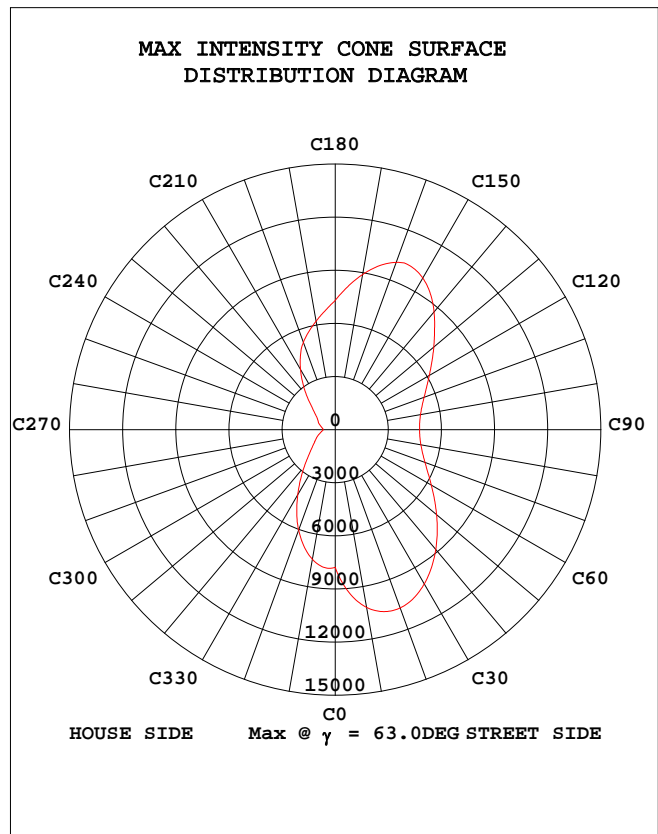
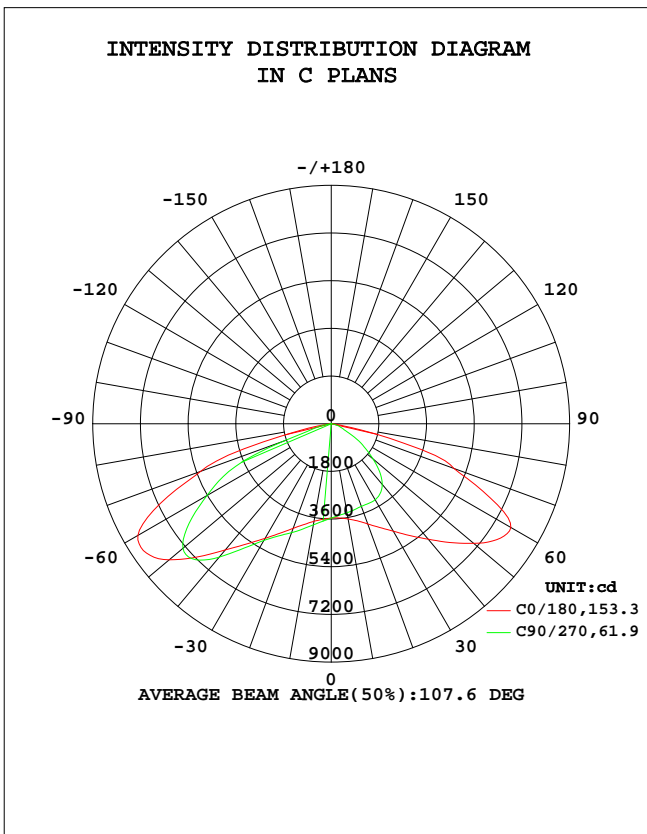
20
15
10
5
0

0
5
10
15
20

STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/150)30KD-T3LV	WARRANTY: 4.37Yr
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 155.64 lm/W			
LOC-SPAL-MW(50/80/100/150)30KD-T3LV		Imax(cd)	10639	η street_up(%)	0.0
NOMINAL POWER(W)	150.0	LOR(%)	100.0	η street_down(%)	65.1
RATED VOLTAGE(V)	347	TOTAL FLUX(lm)	23104	η house_up(%)	0.0
NOMINAL FLUX(lm)	23104.2	MAXIMUM @(C, γ)	23,63.0	η house_down(%)	34.9
LAMPS INSIDE	1	η up(%)	0.0	76 FLASHAREA(m2)	0.00100
TEST VOLTAGE(V)	347	η down(%)	100.0	SLI	20.749

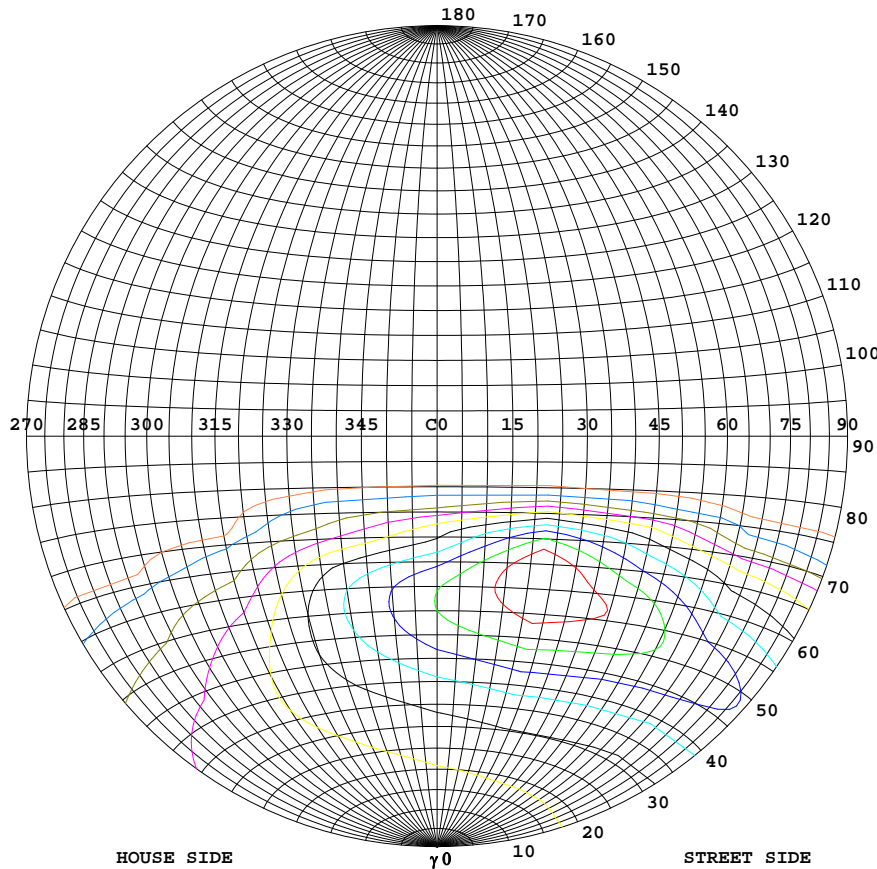


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100) / 16030K-4.37kg	MODEL: 4.37kg
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



Classification:

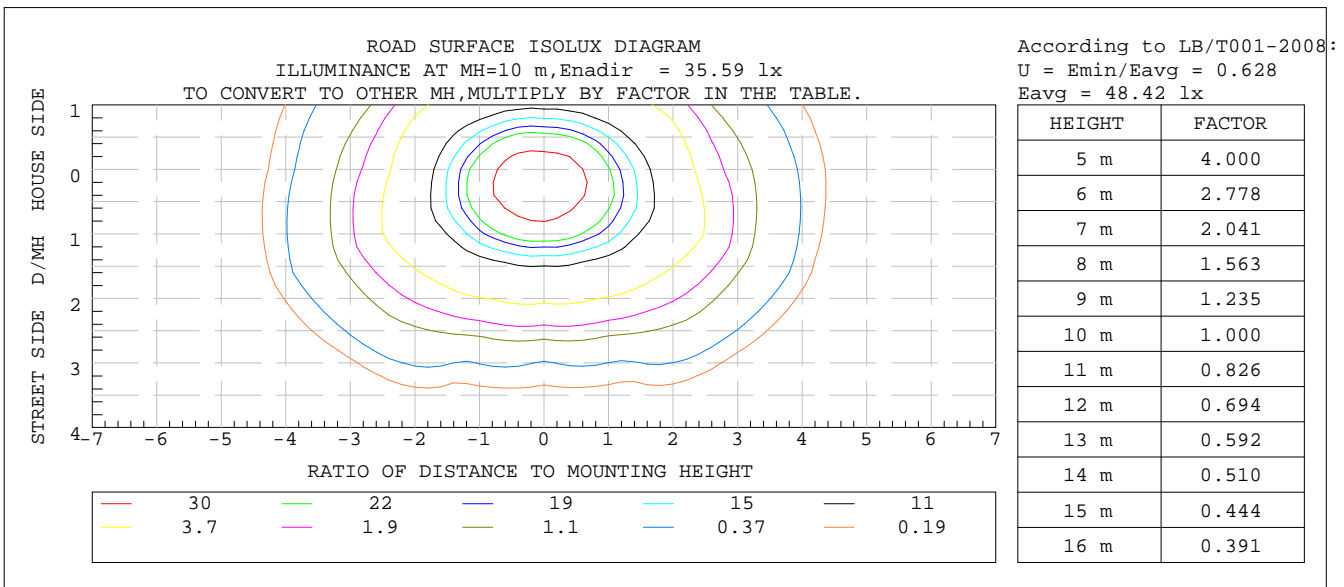
IES:Type III - Short
 CIE:Narrow - Intermediate
 IES:Full cut-off
 CIE:Semi-cut-off
 Max.At80:30.81cd/klm
 Max.At90:0cd/klm
 Max.80-90:30.81cd/klm
 NRB 5101:Semi limited[11.1%]

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	10639
90%	9575
80%	8511
70%	7447
60%	6383
50%	5319
40%	4255
30%	3192
20%	2128
10%	1064
5%	532

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jonathan
Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity: 65.0%
Test Distance: 2.554m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.37kg	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

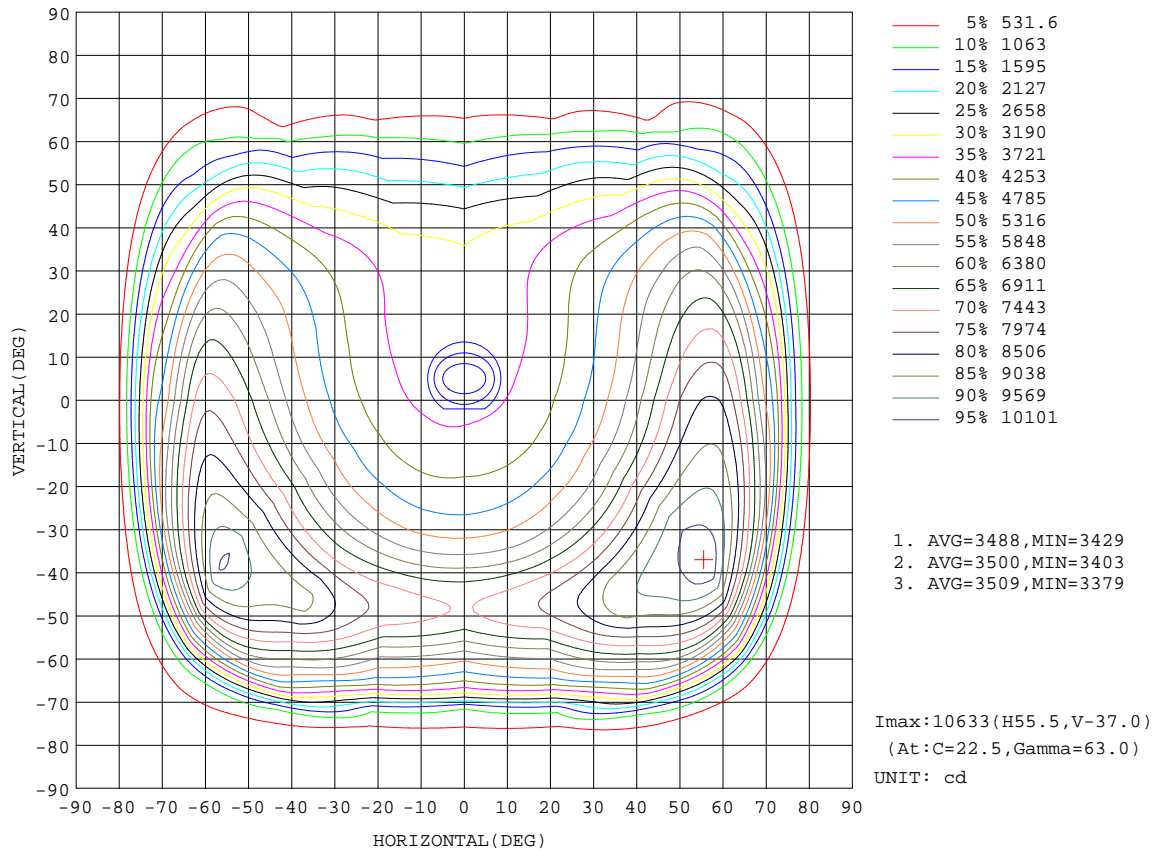
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum,lamp
10	373.9	384.4	387.6	378.4	365.0	348.5	341.3	355.4	0- 10	345.3	345.3	1.49,1.49
20	420.1	437.2	437.4	426.4	402.5	357.3	332.3	370.3	10- 20	1084	1429	6.18,6.18
30	499.4	527.4	508.8	507.8	468.5	382.2	331.6	403.2	20- 30	1968	3397	14.7,14.7
40	622.1	672.9	657.0	634.4	569.1	397.7	299.5	429.4	30- 40	3107	6504	28.2,28.2
50	799.1	875.1	730.8	825.7	702.7	362.4	205.4	395.3	40- 50	4508	11012	47.7,47.7
60	843.2	899.4	541.4	877.1	783.0	244.7	101.1	271.5	50- 60	5476	16488	71.4,71.4
70	522.7	574.8	191.0	560.4	492.2	63.59	37.26	91.26	60- 70	4760	21248	92,92
80	60.51	40.58	18.03	36.45	49.32	9.037	5.080	12.33	70- 80	1762	23010	99.6,99.6
90	0	0	0	0	0	0	0	0	80- 90	94.56	23104	100,100
100	0	0	0	0	0	0	0	0	90-100	0	23104	100,100
110	0	0	0	0	0	0	0	0	100-110	0	23104	100,100
120	0	0	0	0	0	0	0	0	110-120	0	23104	100,100
130	0	0	0	0	0	0	0	0	120-130	0	23104	100,100
140	0	0	0	0	0	0	0	0	130-140	0	23104	100,100
150	0	0	0	0	0	0	0	0	140-150	0	23104	100,100
160	0	0	0	0	0	0	0	0	150-160	0	23104	100,100
170	0	0	0	0	0	0	0	0	160-170	0	23104	100,100
180	0	0	0	0	0	0	0	0	170-180	0	23104	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

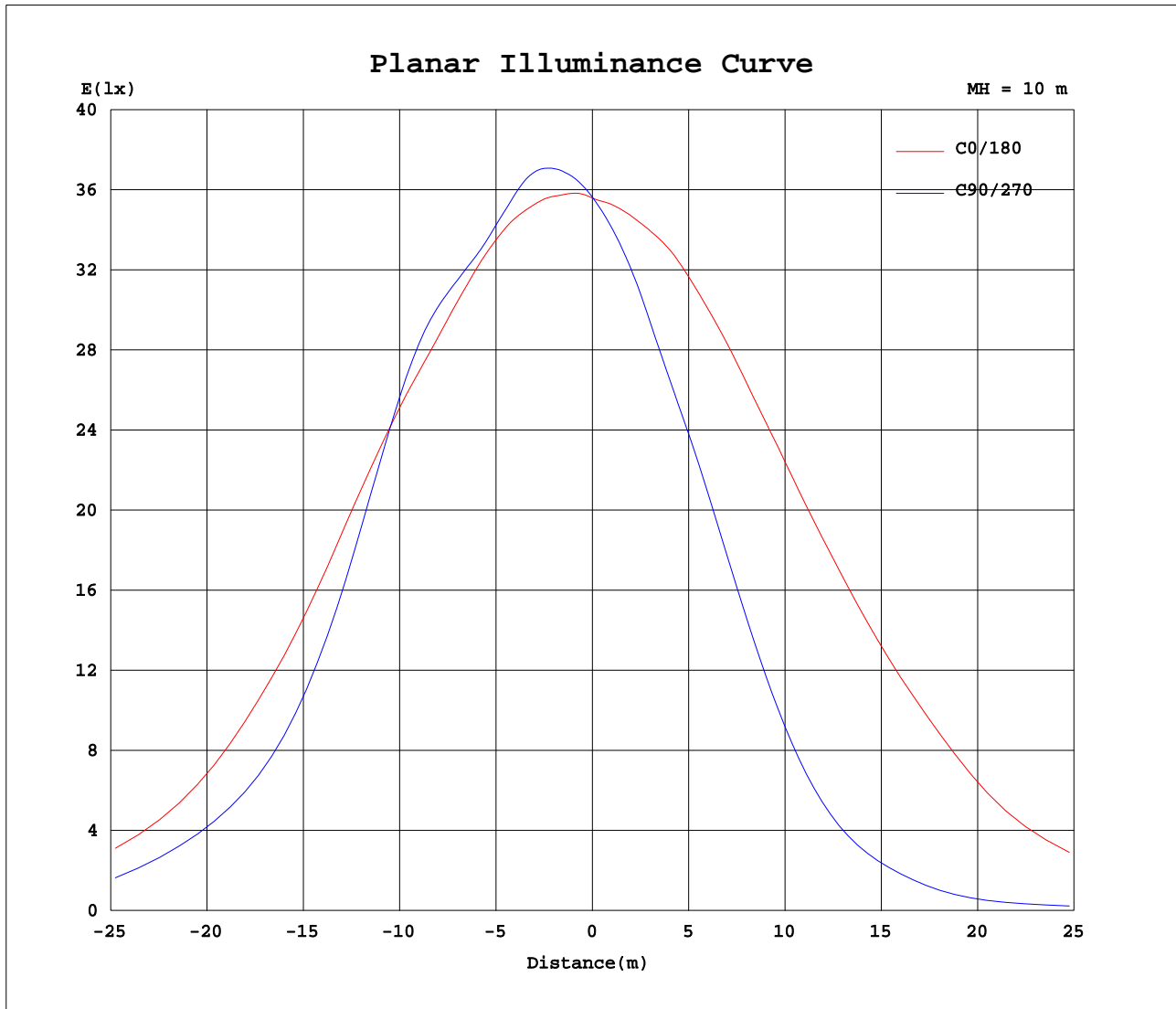
Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SMD-4.2W	MODEL: 4.2W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jonathan
Test Date: 2023-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity: 65.0%
Test Distance: 2.554m [K=1.0000]
Remarks:

Planar Illuminance Curve



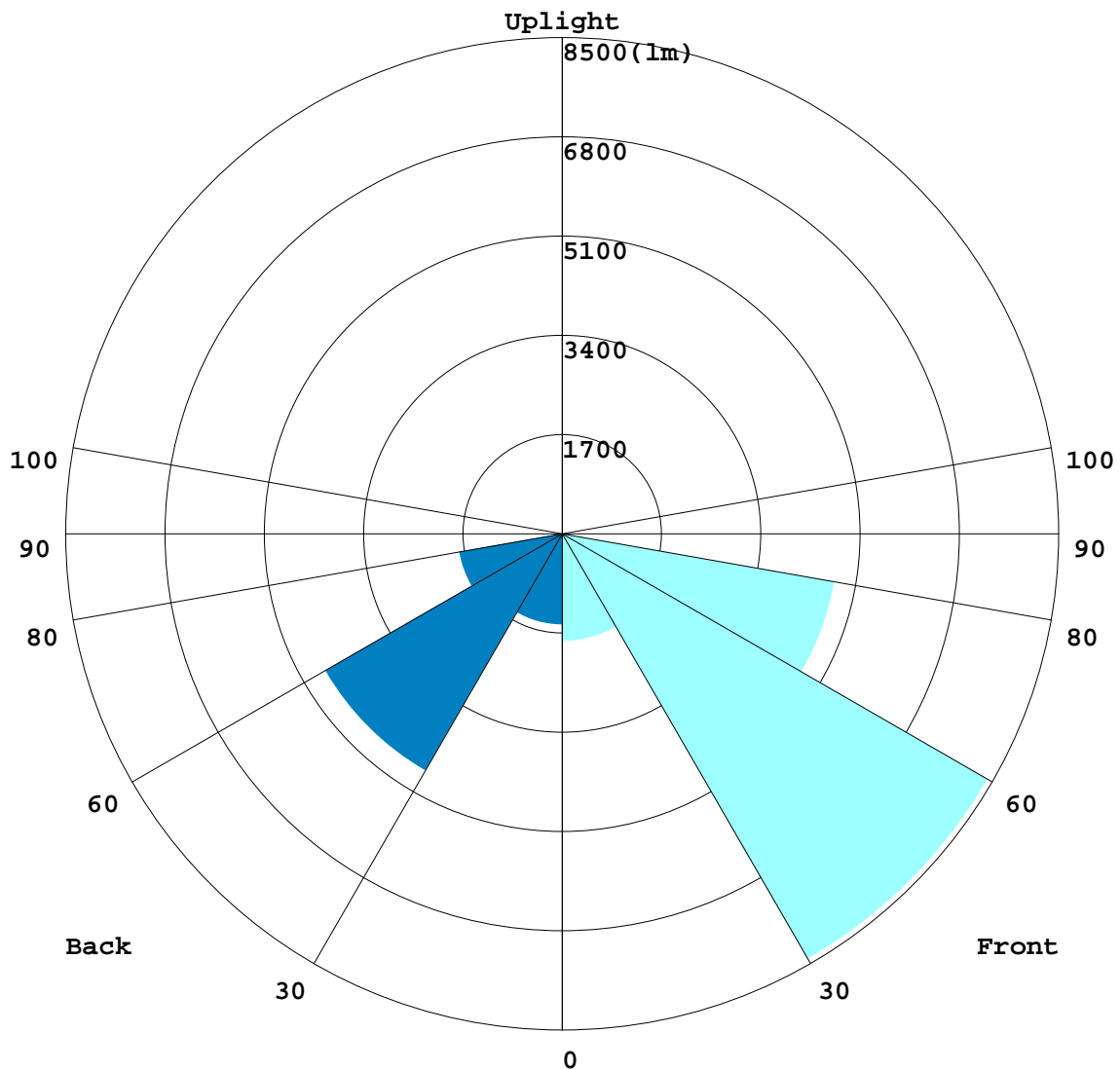
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

LCS REPORT

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SHLD-4.37kg	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

BUG REPORT

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.37kg	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	1840.1	8.0
FM - Front-Medium(30-60)	8406.1	36.4
FH - Front-High(60-80)	4731.4	20.5
FVH - Front-Very High(80-90)	62.262	0.3
Total Forward Light	15040	65.1

BL - Back-Low(0-30)	1557.2	6.7
BM - Back-Medium(30-60)	4684.5	20.3
BH - Back-High(60-80)	1790.4	7.7
BVH - Back-Very High(80-90)	32.299	0.1
Total Back Light	8064.4	34.9

UL - Uplight-Low(90-100)	0	0.0
UH - Uplight-High(100-180)	0	0.0
Total Up Light	0	0.0

BUG(Back,Up,Glare) Rating	B3-U0-G3
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	8064.4	0	8064.4
Street Side	15040	0	15040

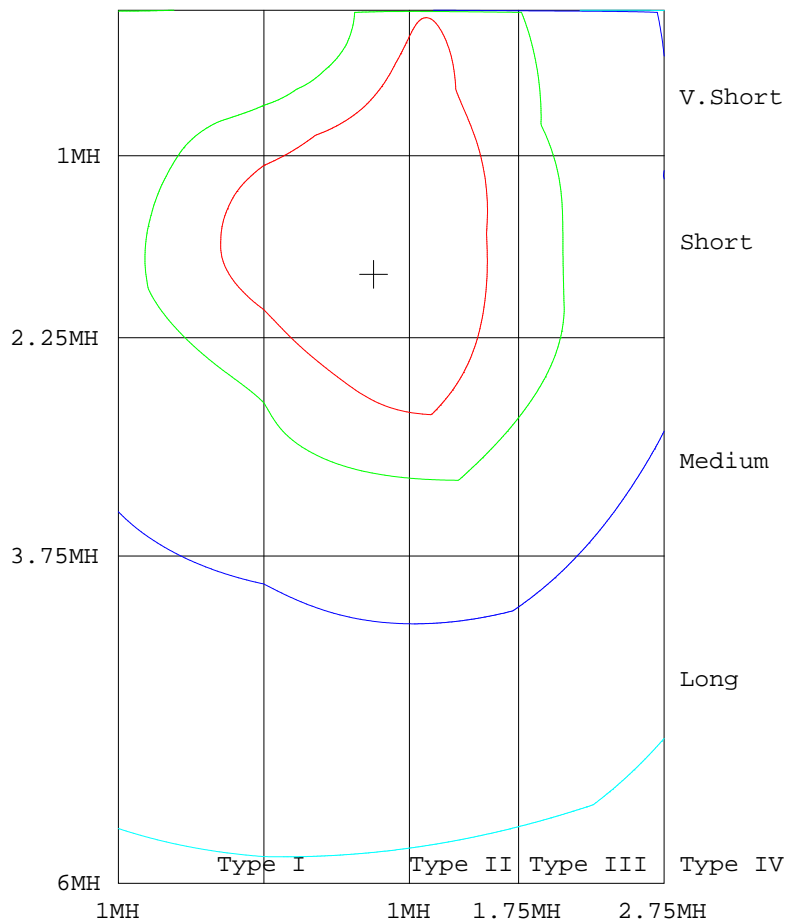
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jonathan
Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:2.554m [K=1.0000]
Remarks:

ROAD ISOCANDELA REPORT

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160)SMD-4.2W	16030K-4.2W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

ROAD SURFACE ISOCANDELA DIAGRAM



Pavement Road
 - 70% 7444.7 - 20% 2127 -2.5% 265.88
 - 50% 5317.6 - 5% 531.76

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:347.04V I:0.4309A P:148.45W PF:0.9927 Freq:60.00Hz Lamp Flux:23104.2x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.37kg	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

Table--1

UNIT: x10cd

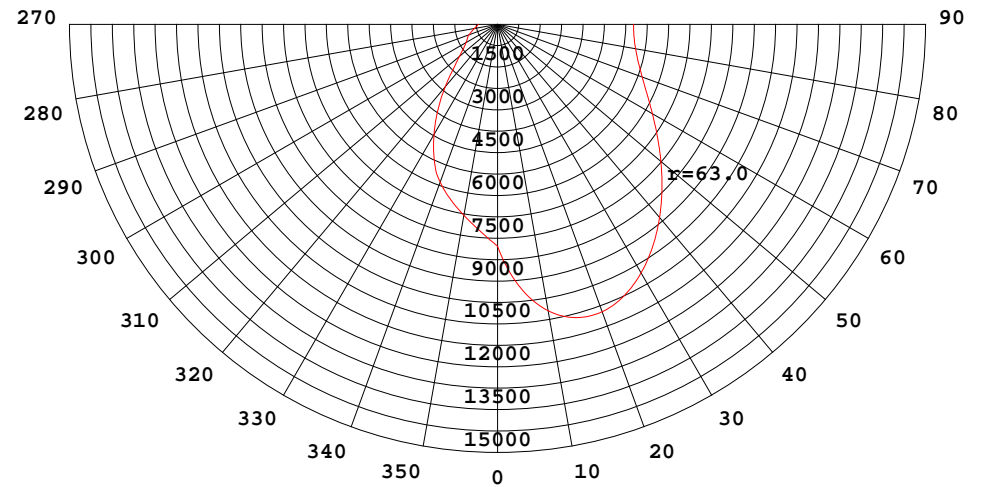
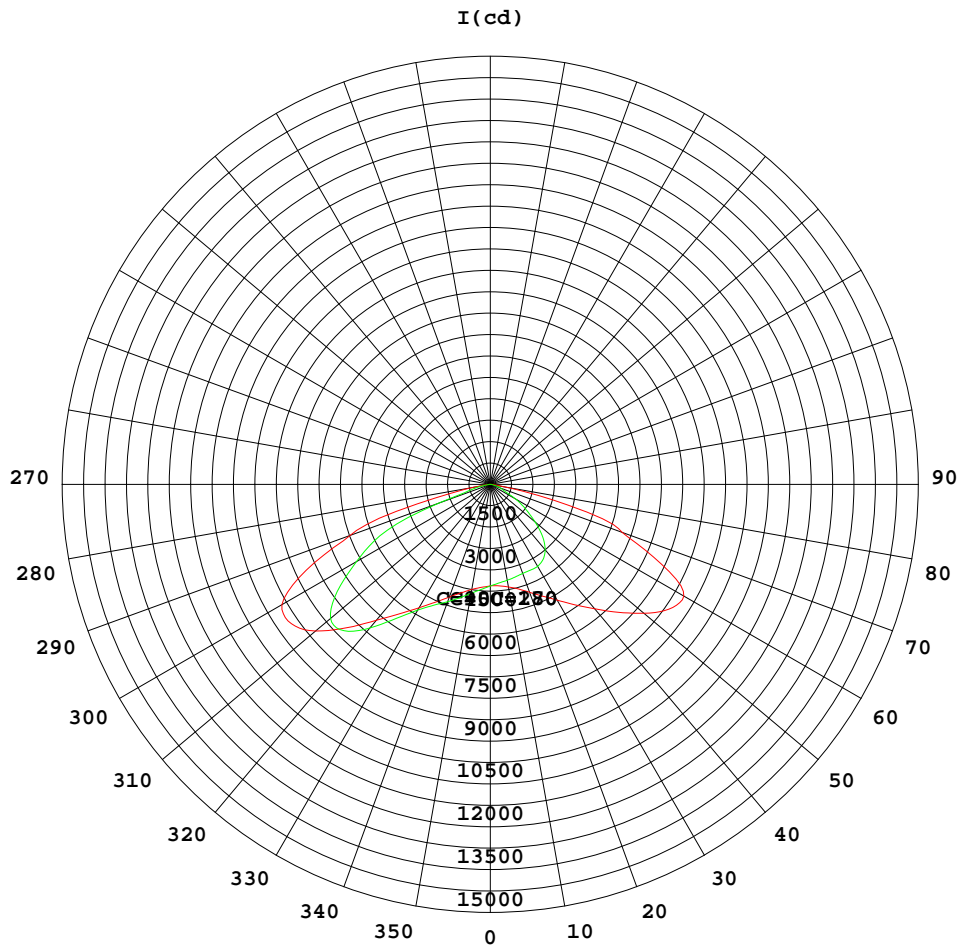
C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356			
5	362	366	369	370	370	367	365	362	357	353	350	347	347	350	354	358			
10	374	380	384	388	388	383	378	373	365	357	349	343	341	347	355	365			
15	393	402	406	409	411	404	399	391	380	366	352	340	336	346	361	379			
20	420	433	437	438	437	431	426	419	403	382	357	338	332	346	370	398			
25	456	473	477	472	467	463	462	455	432	404	368	339	332	350	385	423			
30	499	526	527	515	509	505	508	500	468	430	382	341	332	356	403	454			
35	553	592	589	576	573	564	563	558	515	461	394	337	322	355	420	492			
40	622	679	673	663	657	646	634	630	569	494	398	323	299	341	429	533			
45	710	793	770	756	725	735	720	721	634	523	389	292	260	309	423	574			
50	799	902	875	797	731	779	826	815	703	541	362	245	205	262	395	608			
55	851	987	940	744	655	731	907	907	763	547	316	193	152	210	347	626			
60	843	1045	899	629	541	619	877	988	783	533	245	138	101	154	271	609			
65	712	1048	751	510	427	507	729	1012	662	459	154	76.9	54.5	84.9	181	511			
70	523	859	575	297	191	292	560	828	492	278	63.6	32.0	37.3	33.2	91.3	315			
75	266	457	287	81.6	60.6	78.5	250	425	283	133	23.1	16.2	21.2	17.0	29.7	161			
80	60.5	59.3	40.6	22.1	18.0	22.0	36.4	71.2	49.3	42.5	9.04	5.59	5.08	6.23	12.3	47.4			
85	7.41	13.5	6.03	4.15	0.39	3.97	7.14	11.9	6.00	7.21	0.51	0.28	0.17	0.32	0.86	8.20			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

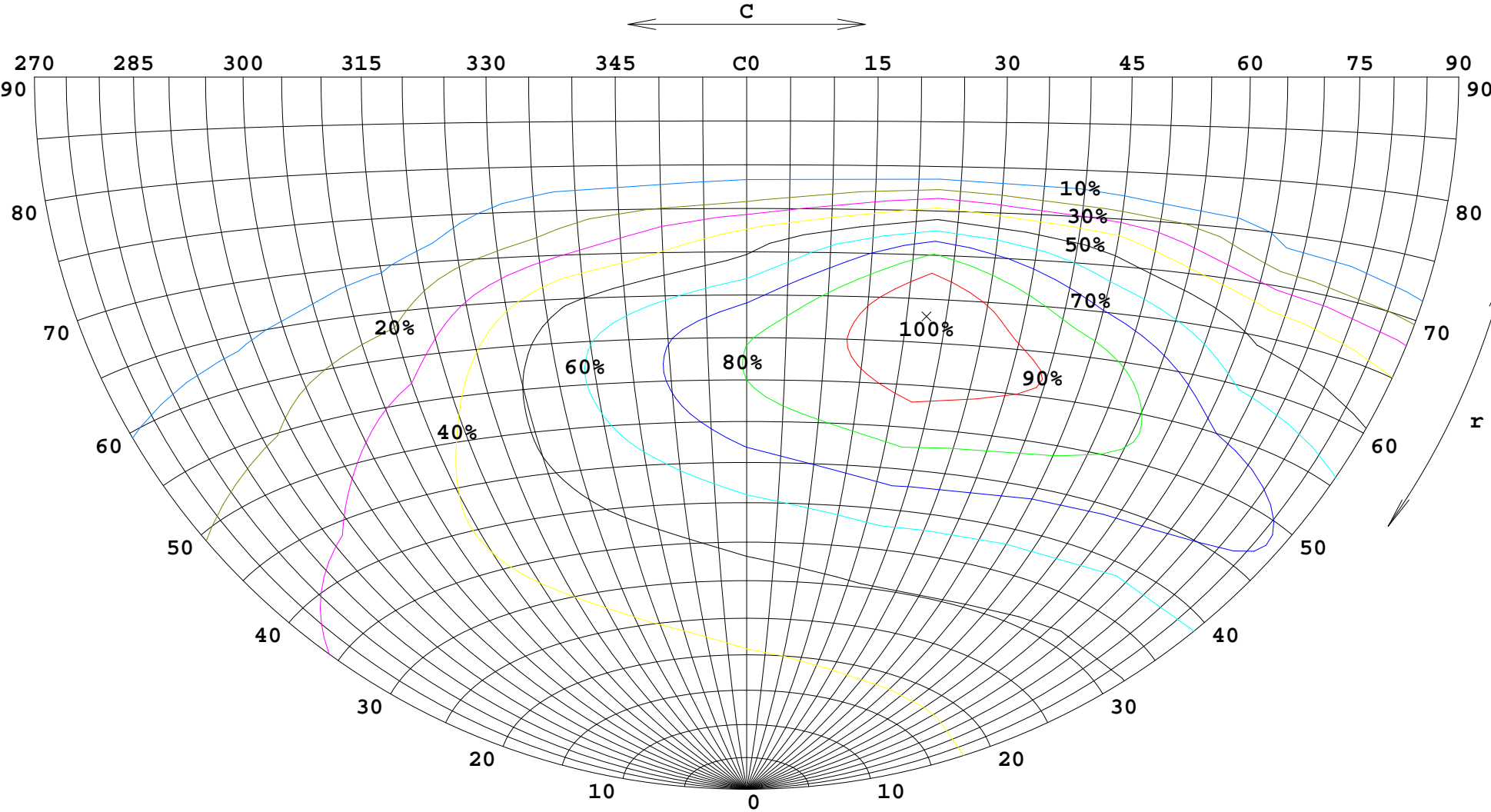
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

FLUX DATA:

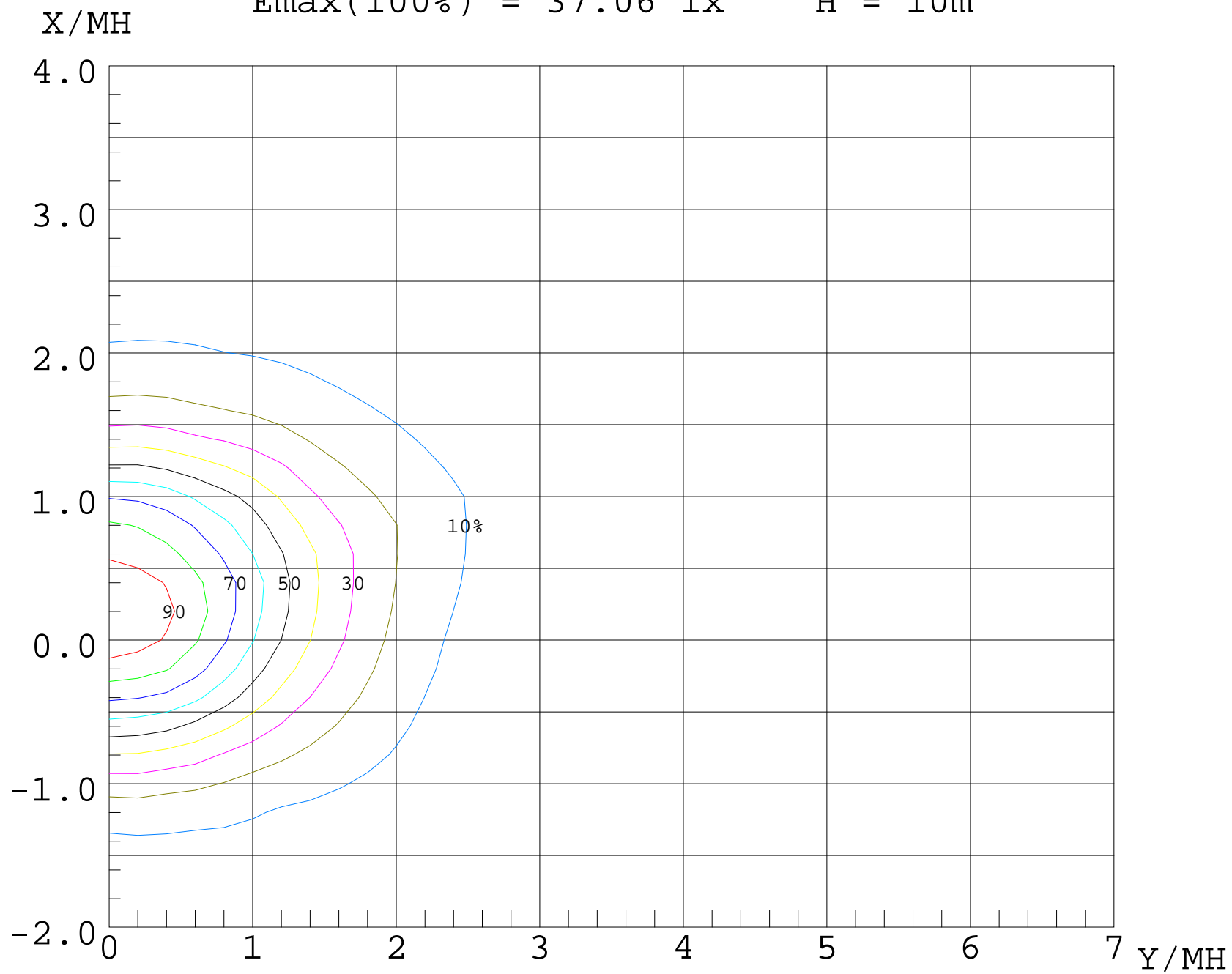
LOR: 100.0 %
 STREET DOWN: 15040 lm
 STREET UP: 0 lm
 HOUSE DOWN: 8064 lm
 HOUSE UP: 0 lm



$I_{max}(100\%) = 10639 \text{ cd}$



$E_{\max}(100\%) = 37.06 \text{ lx}$ $H = 10\text{m}$



UF (%)

80

70

60

50

40

30

20

10

0

-2

-1

0

1

2

3

4 X/MH



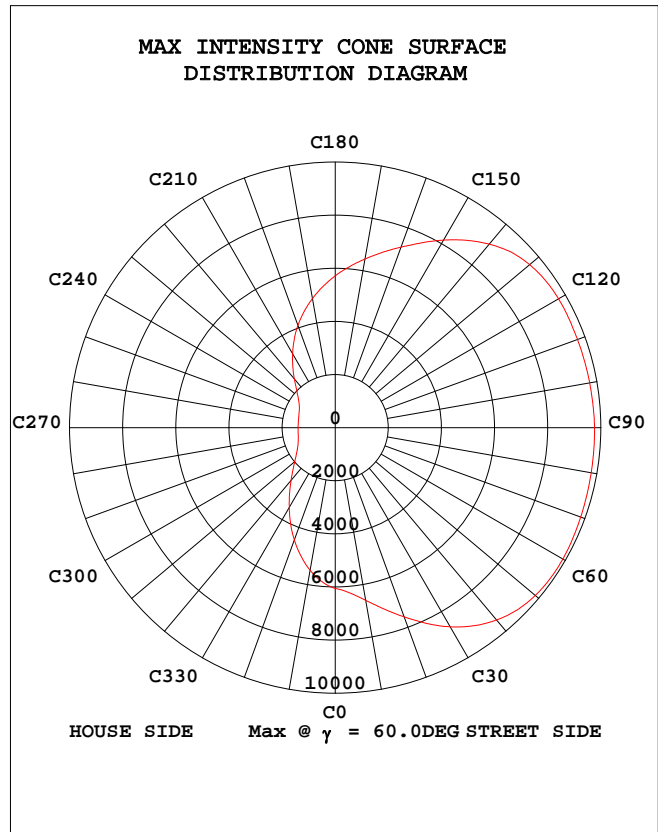
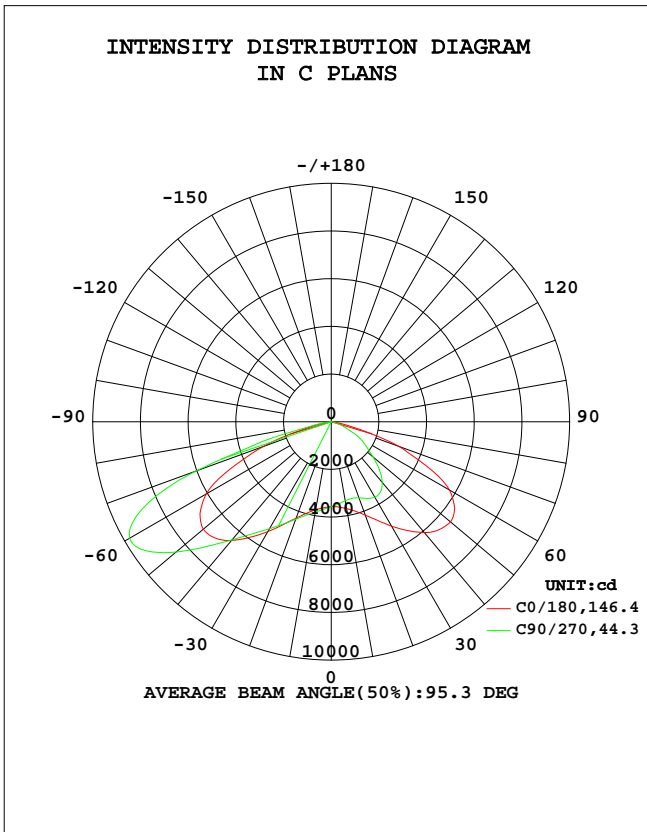
20
0

0
5
10
15
20

STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/150)30KD-T4LV	MODEL: 30KD-T4LV
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 155.52 lm/W			
LOC-SPAL-MW(50/80/100/150)30KD-T4LV		Imax(cd)	9848	η street_up(%)	0.0
NOMINAL POWER(W)	150.0	LOR(%)	100.0	η street_down(%)	67.9
RATED VOLTAGE(V)	347	TOTAL FLUX(lm)	23048	η house_up(%)	0.0
NOMINAL FLUX(lm)	23047.9	MAXIMUM @(C, γ)	68,60.0	η house_down(%)	32.1
LAMPS INSIDE	1	η up(%)	0.0	76 FLASHAREA(m2)	0.00100
TEST VOLTAGE(V)	347	η down(%)	100.0	SLI	19.732

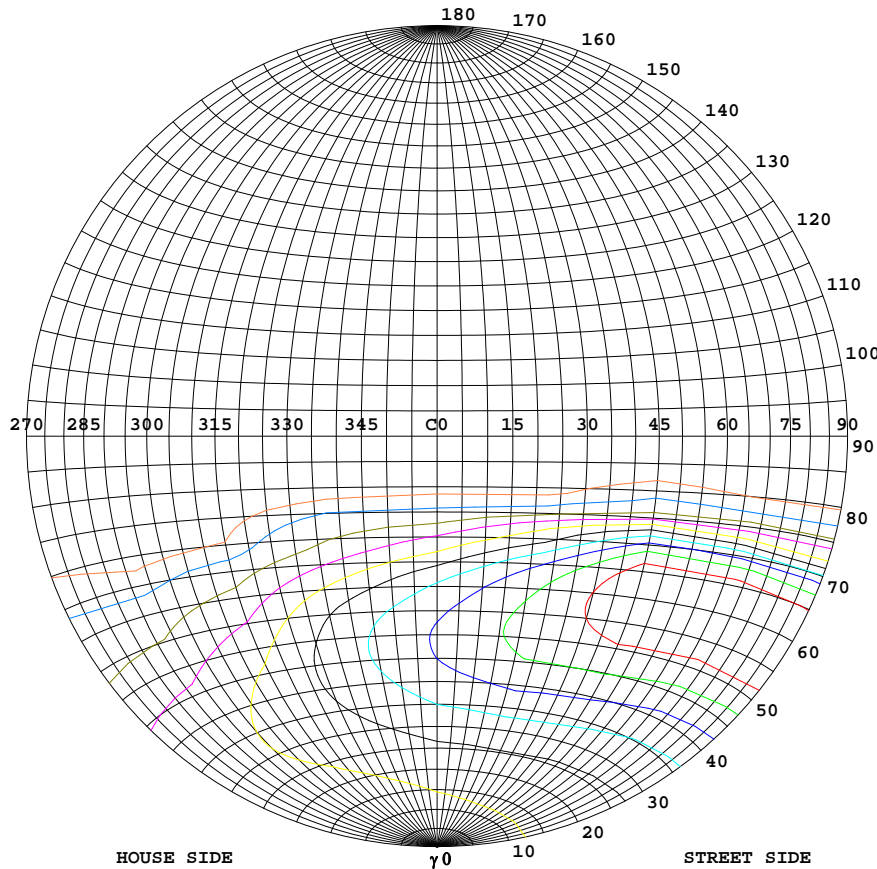


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100) 140W	MODEL: 4.47kg
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



Classification:

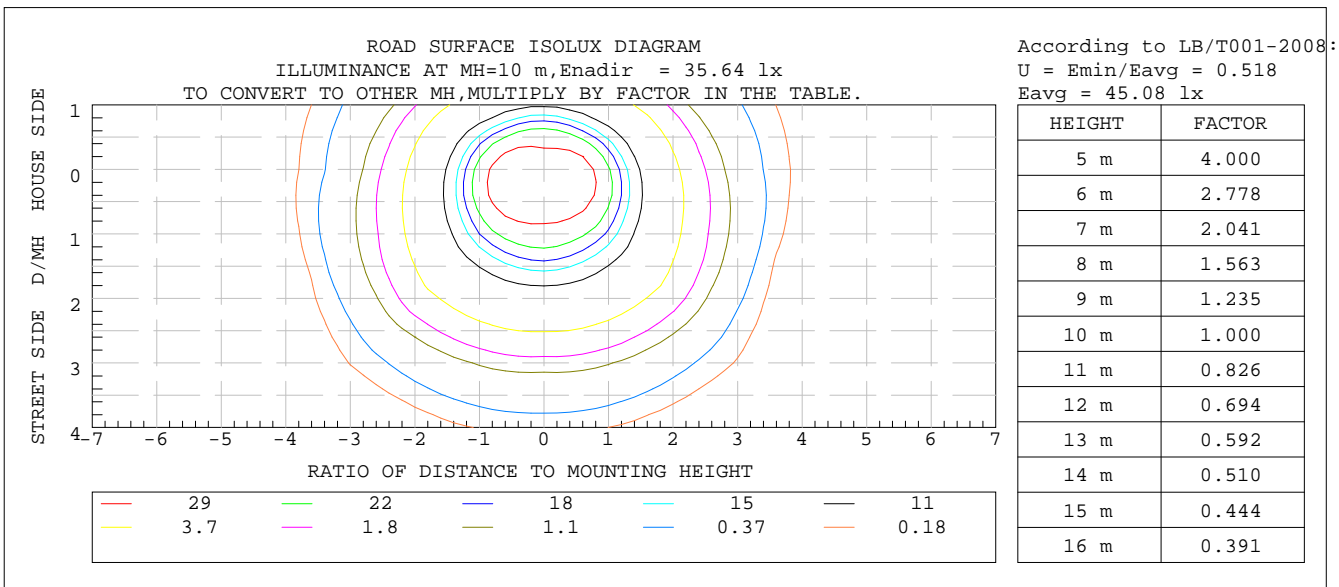
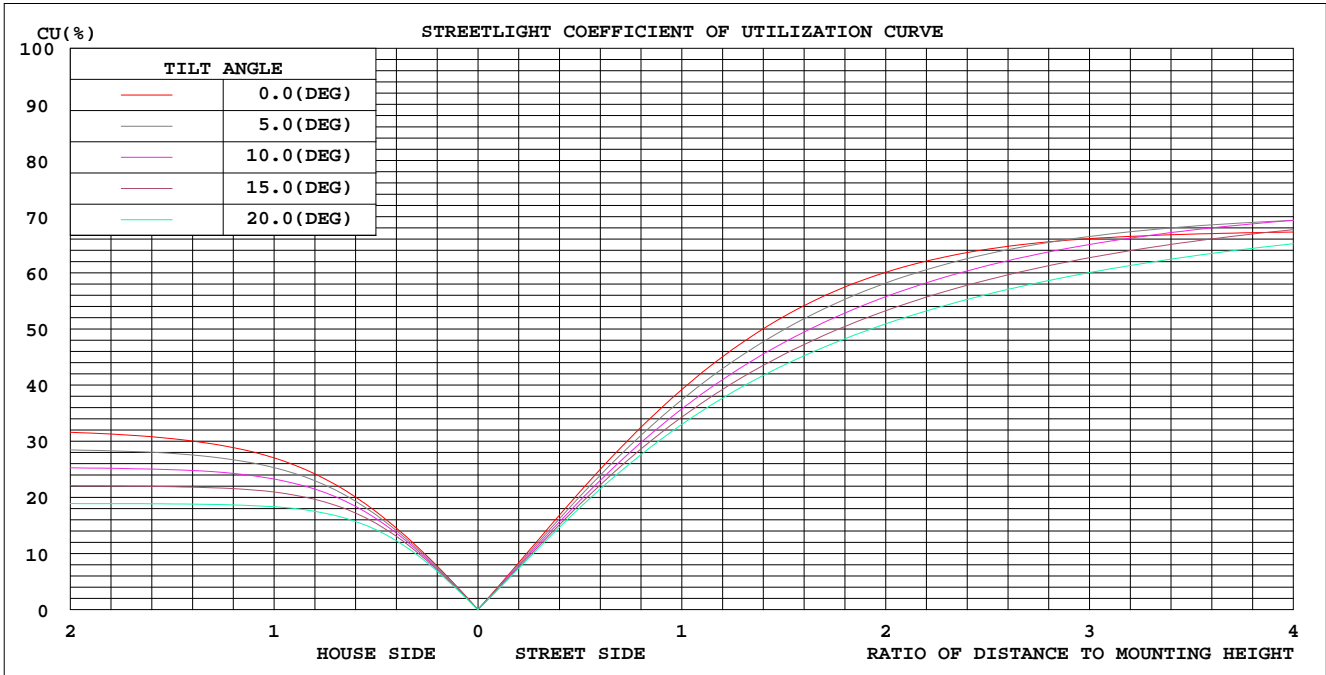
IES:Type IV - Very Short
 CIE:Broad - Intermediate
 IES:Full cut-off
 CIE:Semi-cut-off
 Max.At80:33.50cd/klm
 Max.At90:0cd/klm
 Max.80-90:33.50cd/klm
 NRB 5101:Limited[4.1%]

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	9848
90%	8863
80%	7879
70%	6894
60%	5909
50%	4924
40%	3939
30%	2954
20%	1970
10%	985
5%	492

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jonathan
Test Date: 2023-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity: 65.0%
Test Distance: 2.554m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SMD-4.0W	18030K-4.0W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

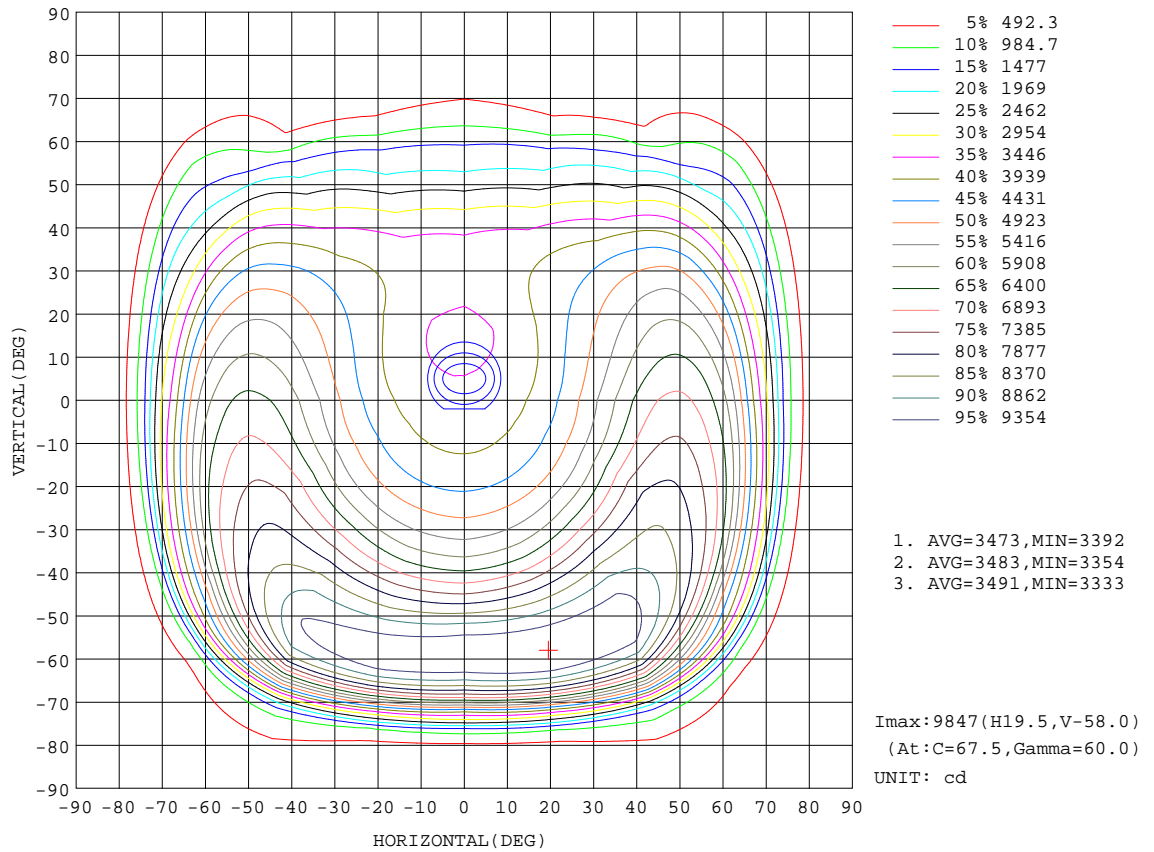
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum,lamp
10	3750	3847	3845	3817	3697	3468	3368	3519	0- 10	345.0	345.0	1.5,1.5
20	4303	4402	4352	4332	4170	3638	3396	3749	10- 20	1089	1434	6.22,6.22
30	5317	5414	5177	5247	5054	4028	3656	4182	20- 30	2040	3474	15.1,15.1
40	6497	7012	6468	6689	6069	4043	3330	4262	30- 40	3246	6720	29.2,29.2
50	7007	8740	8508	8320	6528	3410	2280	3640	40- 50	4531	11251	48.8,48.8
60	6055	9696	9762	9355	5720	2070	1399	2256	50- 60	5379	16630	72.2,72.2
70	3034	7157	6033	6735	2995	454.8	480.7	523.6	60- 70	4740	21370	92.7,92.7
80	321.6	772.1	411.2	729.1	304.9	94.99	59.48	114.7	70- 80	1585	22955	99.6,99.6
90	0	0	0	0	0	0	0	0	80- 90	92.72	23048	100,100
100	0	0	0	0	0	0	0	0	90-100	0	23048	100,100
110	0	0	0	0	0	0	0	0	100-110	0	23048	100,100
120	0	0	0	0	0	0	0	0	110-120	0	23048	100,100
130	0	0	0	0	0	0	0	0	120-130	0	23048	100,100
140	0	0	0	0	0	0	0	0	130-140	0	23048	100,100
150	0	0	0	0	0	0	0	0	140-150	0	23048	100,100
160	0	0	0	0	0	0	0	0	150-160	0	23048	100,100
170	0	0	0	0	0	0	0	0	160-170	0	23048	100,100
180	0	0	0	0	0	0	0	0	170-180	0	23048	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

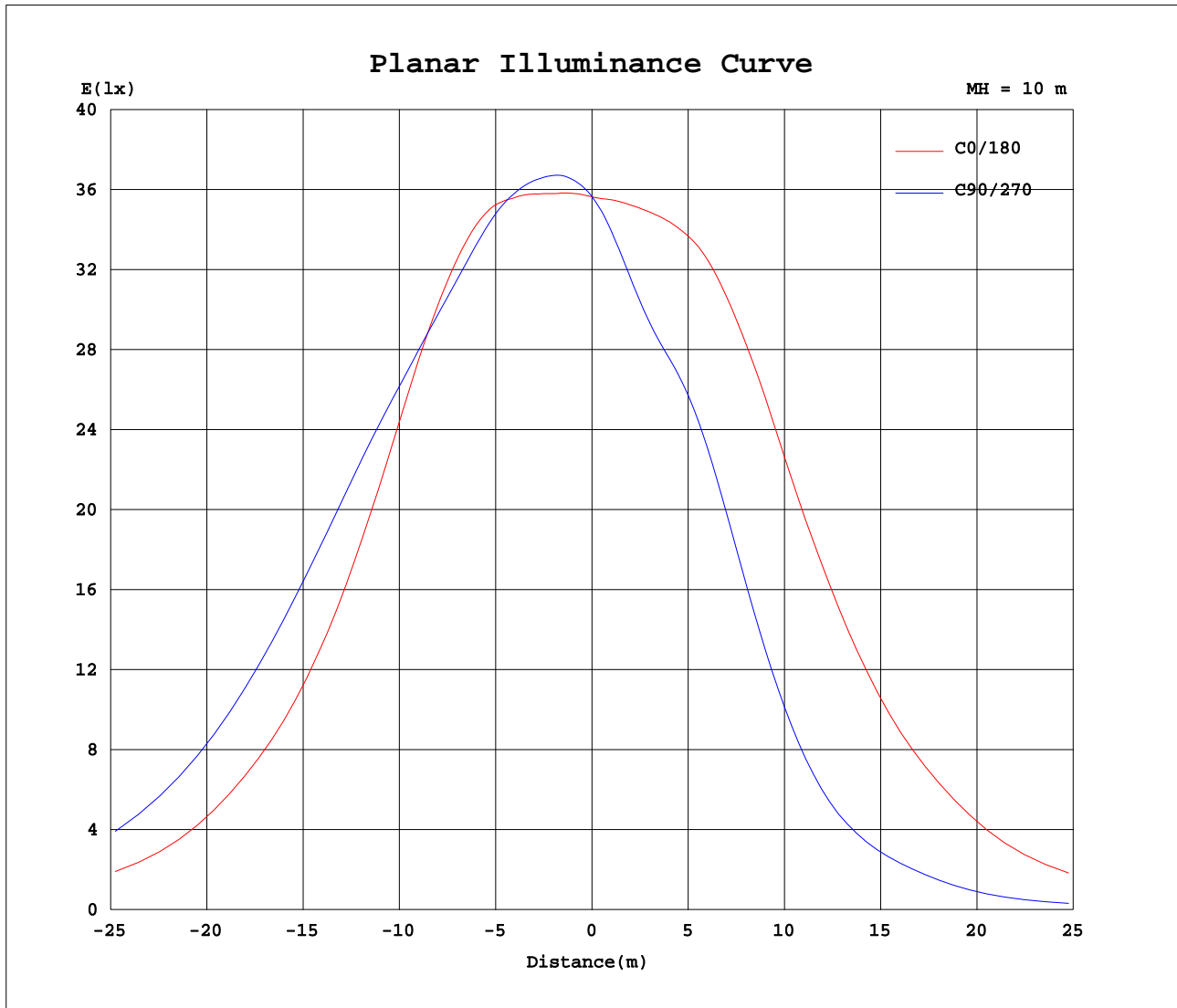
Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160)SMD-4.0W	MODEL: 4.0W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

Planar Illuminance Curve



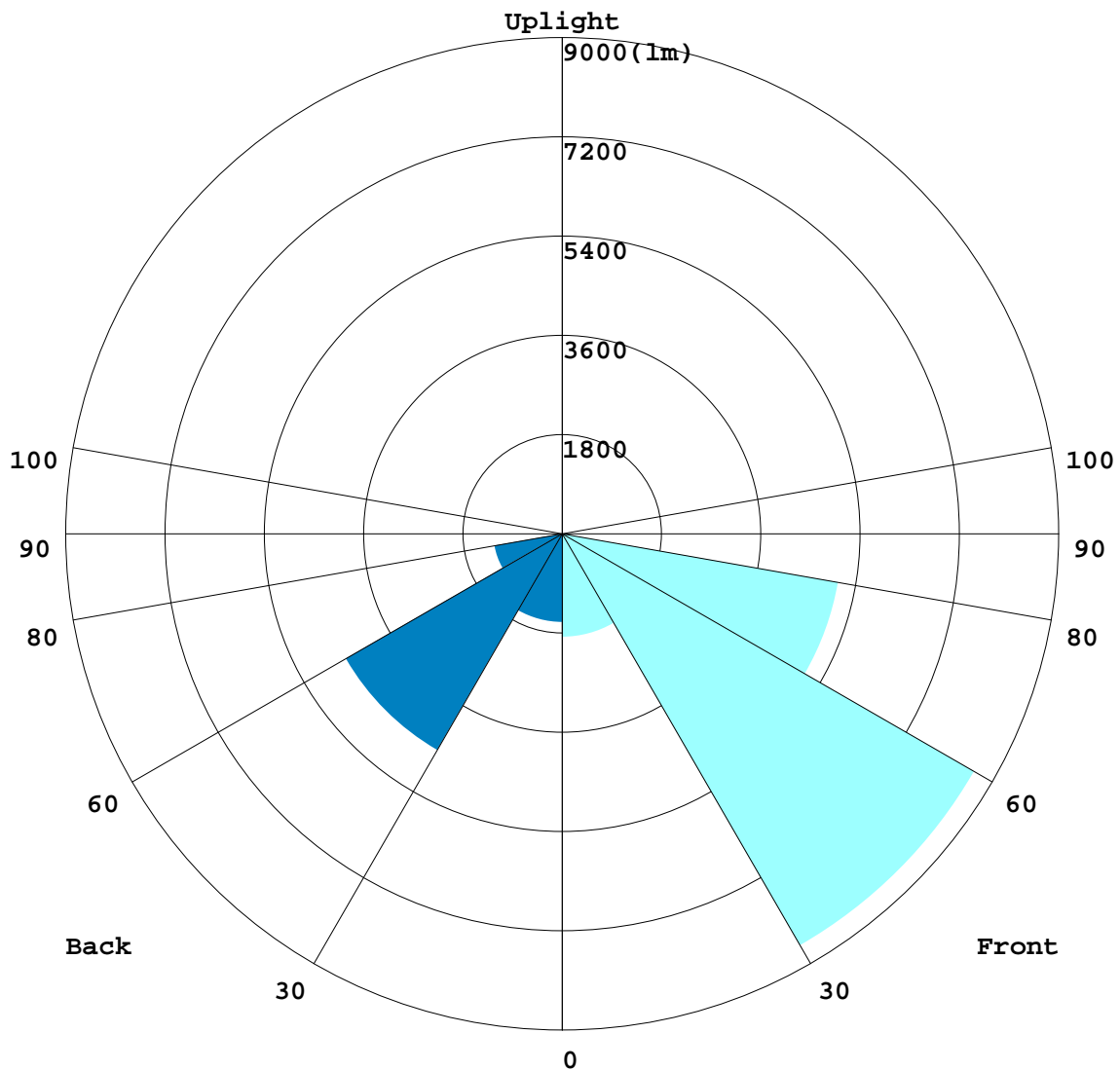
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

LCS REPORT

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SMD-4.2W	MODEL: 4.2W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

BUG REPORT

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160)30K-4.47K-g	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	1871.2	8.1
FM - Front-Medium(30-60)	8624.8	37.4
FH - Front-High(60-80)	5080.4	22.0
FVH - Front-Very High(80-90)	68.135	0.3
Total Forward Light	15645	67.9

BL - Back-Low(0-30)	1603.2	7.0
BM - Back-Medium(30-60)	4530.4	19.7
BH - Back-High(60-80)	1245.2	5.4
BVH - Back-Very High(80-90)	24.588	0.1
Total Back Light	7403.4	32.1

UL - Uplight-Low(90-100)	0	0.0
UH - Uplight-High(100-180)	0	0.0
Total Up Light	0	0.0

BUG(Back,Up,Glare) Rating	B3-U0-G3
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	7403.4	0	7403.4
Street Side	15645	0	15645

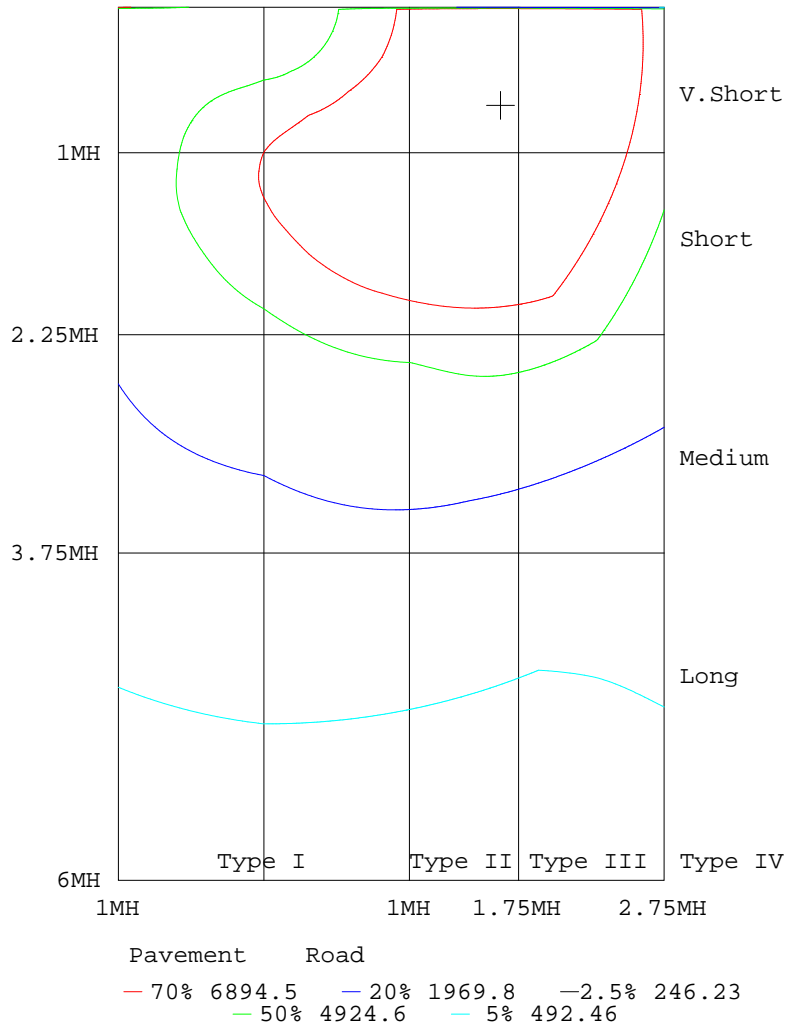
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jonathan
Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:2.554m [K=1.0000]
Remarks:

ROAD ISOCANDELA REPORT

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160/200/400)g	MODEL: 400g
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

ROAD SURFACE ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:347.01V I:0.4302A P:148.20W PF:0.9928 Freq:60.00Hz Lamp Flux:23047.9x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SMD-4.47W	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

Table--1

UNIT: cd

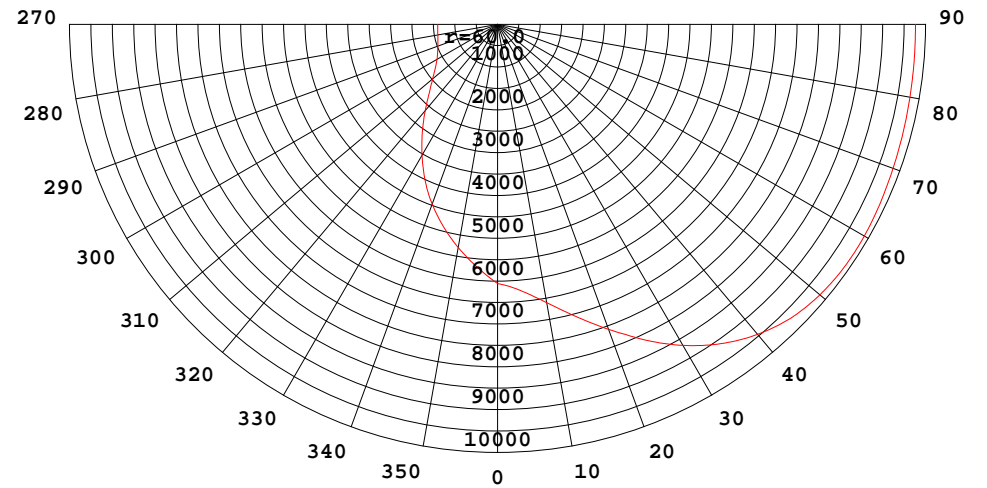
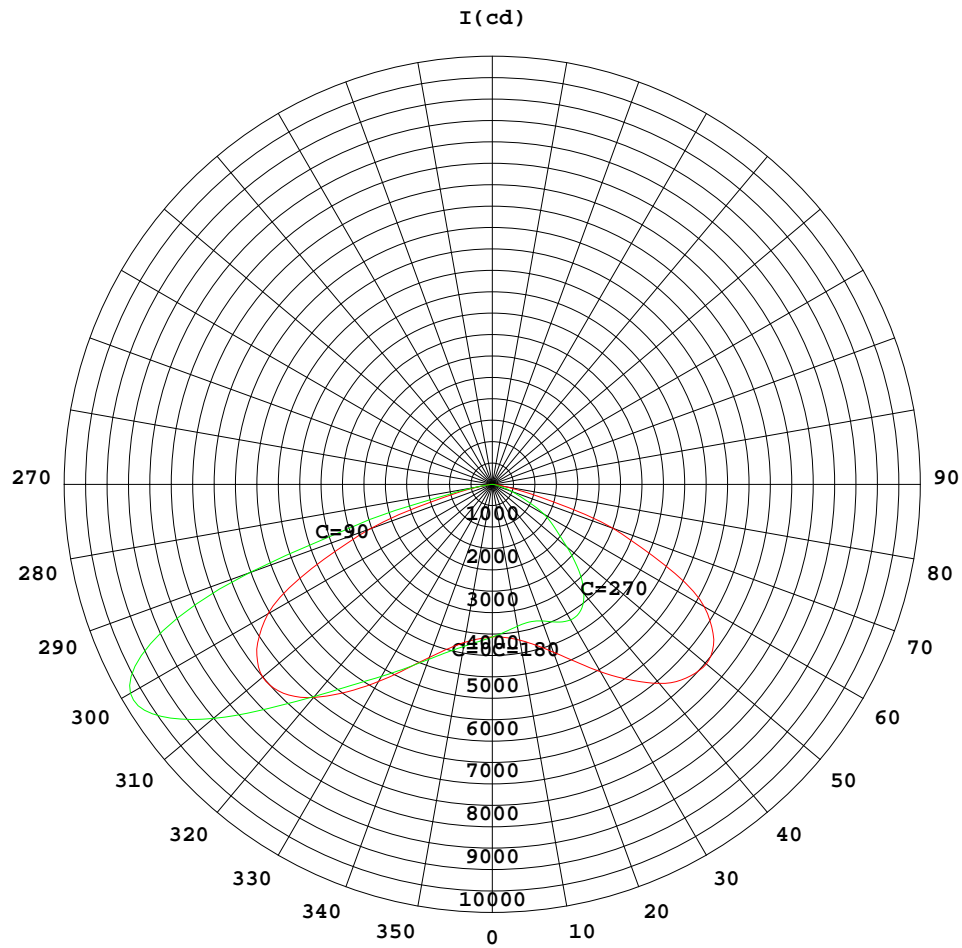
C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	3564	3564	3565	3565	3565	3565	3564	3563	3564	3564	3565	3565	3565	3565	3564	3563			
5	3622	3659	3681	3688	3686	3677	3663	3635	3592	3543	3496	3465	3460	3481	3523	3572			
10	3750	3817	3847	3850	3845	3837	3817	3777	3697	3585	3468	3386	3368	3420	3519	3638			
15	3971	4059	4077	4068	4057	4050	4033	3996	3884	3702	3505	3363	3331	3411	3577	3790			
20	4303	4405	4402	4379	4352	4345	4332	4310	4170	3918	3638	3446	3396	3511	3749	4046			
25	4756	4866	4836	4787	4729	4735	4732	4723	4561	4241	3859	3614	3548	3681	3989	4404			
30	5317	5479	5414	5280	5177	5213	5247	5244	5054	4560	4028	3710	3656	3790	4182	4768			
35	5915	6236	6140	5871	5731	5773	5906	5898	5571	4840	4097	3662	3600	3768	4286	5107			
40	6497	7102	7012	6644	6468	6504	6689	6636	6069	5040	4043	3445	3330	3566	4262	5389			
45	6899	7812	7910	7600	7402	7390	7523	7288	6401	5129	3831	3032	2866	3156	4067	5563			
50	7007	8210	8740	8568	8508	8307	8320	7712	6528	5014	3410	2468	2280	2587	3640	5507			
55	6718	8191	9399	9404	9445	9165	8995	7758	6318	4657	2792	1922	1786	2011	2994	5130			
60	6055	7846	9696	9848	9762	9702	9355	7444	5720	3889	2070	1478	1399	1517	2256	4249			
65	4659	6835	9264	9236	8812	9122	8975	6438	4423	2746	1292	731	834	720	1481	3042			
70	3034	4607	7157	6596	6033	6428	6735	4422	2995	1705	455	358	481	364	524	1939			
75	1150	1779	2770	2486	2345	2381	2428	1332	1185	959	238	184	217	198	270	1006			
80	322	332	772	471	411	452	729	305	305	274	95.0	71.1	59.5	75.9	115	299			
85	71.9	74.2	70.3	5.29	33.8	4.14	65.3	73.9	59.1	41.2	16.0	3.28	2.87	4.67	22.0	48.2			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

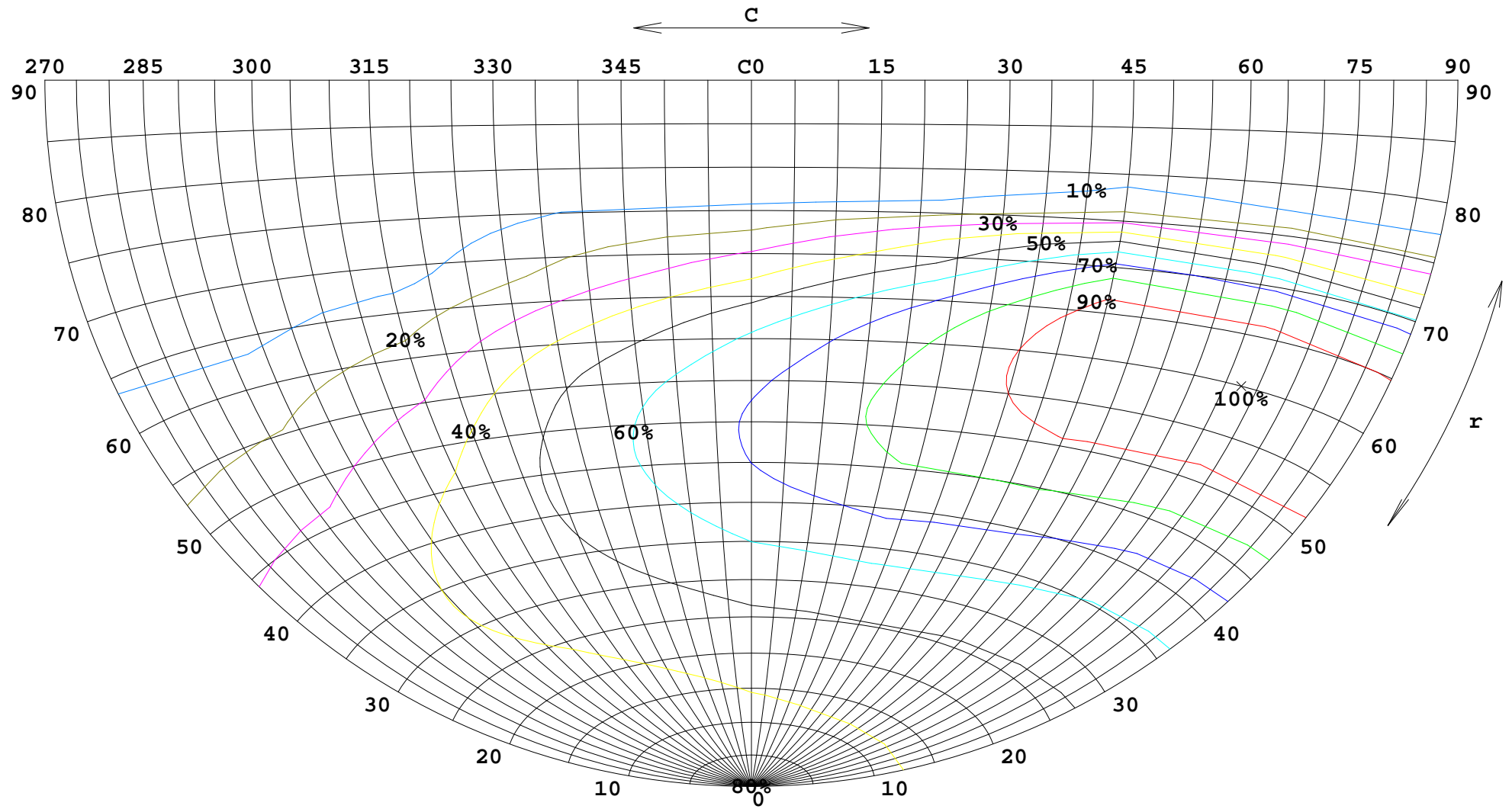
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

FLUX DATA:

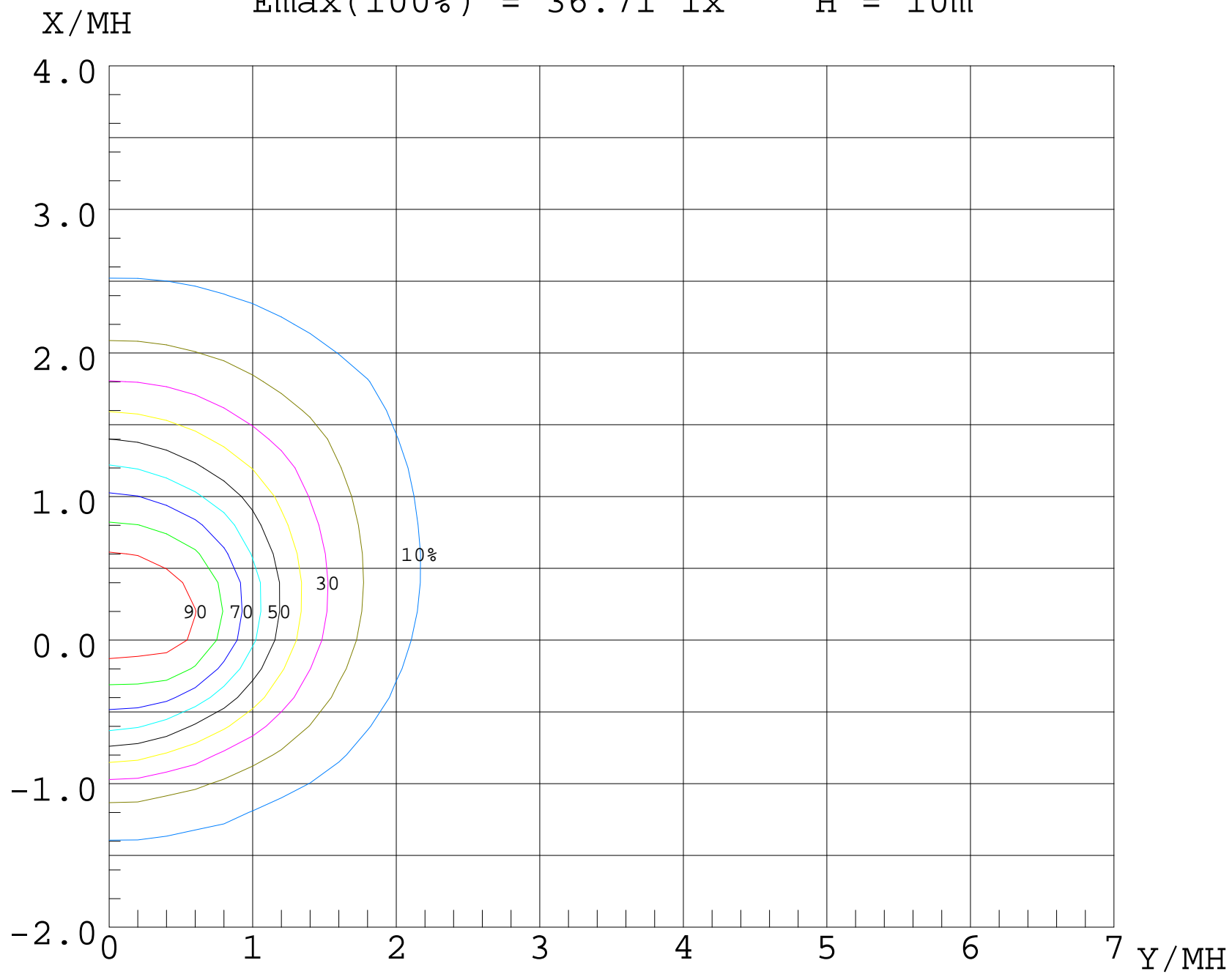
LOR: 100.0 %
STREET DOWN: 15645 lm
STREET UP: 0 lm
HOUSE DOWN: 7403 lm
HOUSE UP: 0 lm



$$I_{\max}(100\%) = 9848 \text{ cd}$$



$E_{\max}(100\%) = 36.71 \text{ lx}$ $H = 10\text{m}$



UF (%)

80

70

60

50

40

30

20

10

0

-2

-1

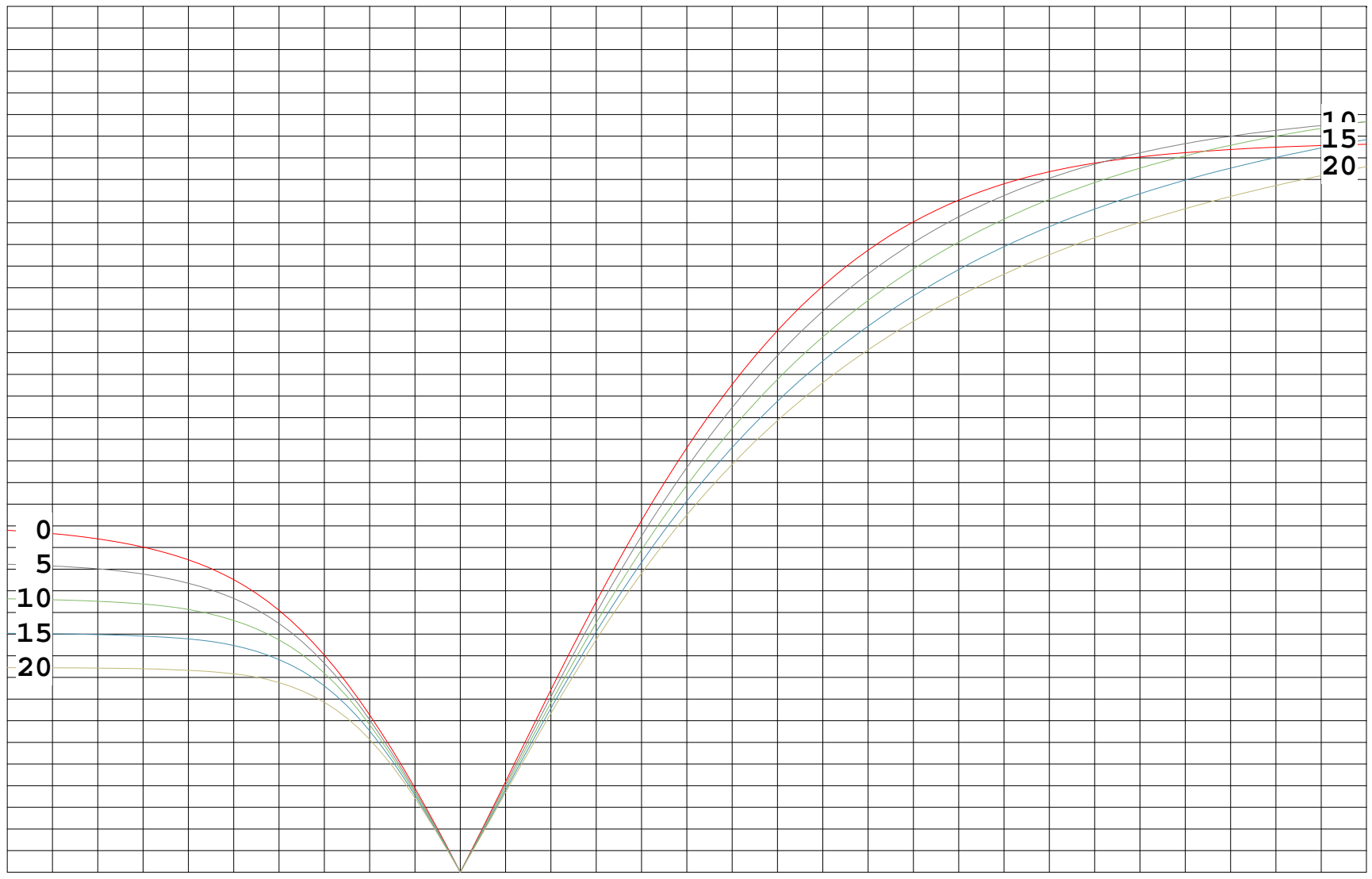
0

1

2

3

4 X/MH



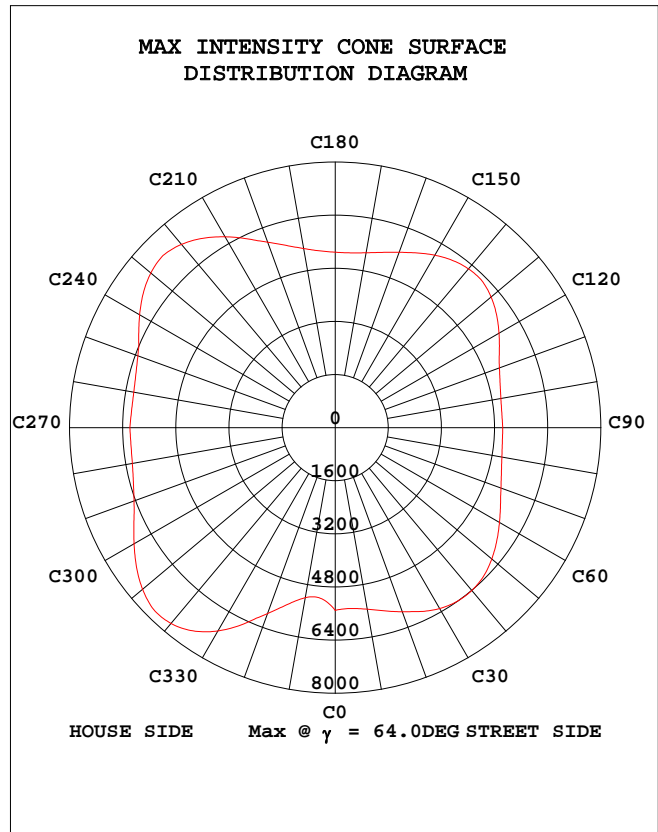
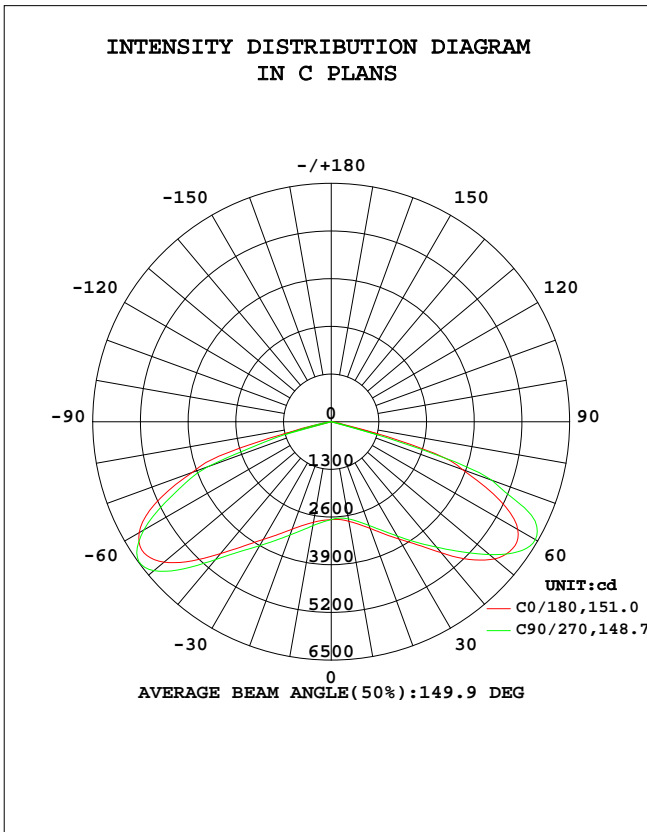
0
5
10
15
20

0
5
10
15
20

STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/150)30KD-T5LV	MODEL: 30KD-T5LV
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 157.33 lm/W			
LOC-SPAL-MW(50/80/100/150)30KD-T5LV		Imax(cd)	7741	η street_up(%)	0.0
NOMINAL POWER(W)	150.0	LOR(%)	100.0	η street_down(%)	49.4
RATED VOLTAGE(V)	347	TOTAL FLUX(lm)	23202	η house_up(%)	0.0
NOMINAL FLUX(lm)	23201.8	MAXIMUM @(C, γ)	315,64.0	η house_down(%)	50.6
LAMPS INSIDE	1	η up(%)	0.0	76 FLASHAREA(m2)	0.00100
TEST VOLTAGE(V)	347	η down(%)	100.0	SLI	19.220

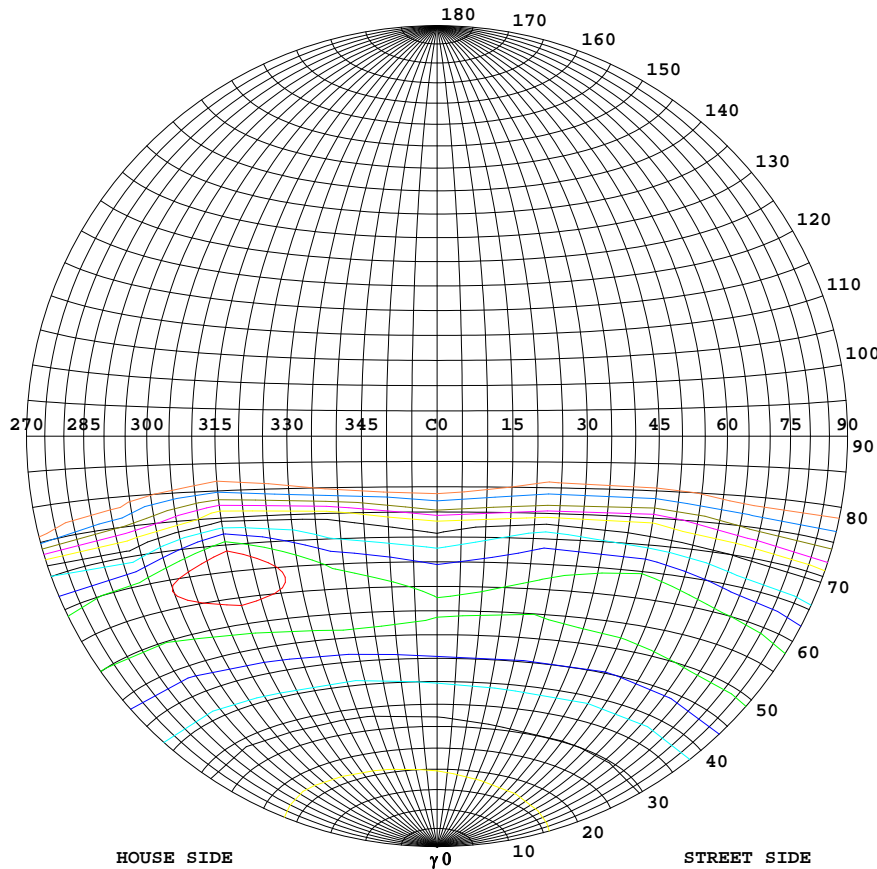


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.5W	MODEL: 4.5W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



Classification:

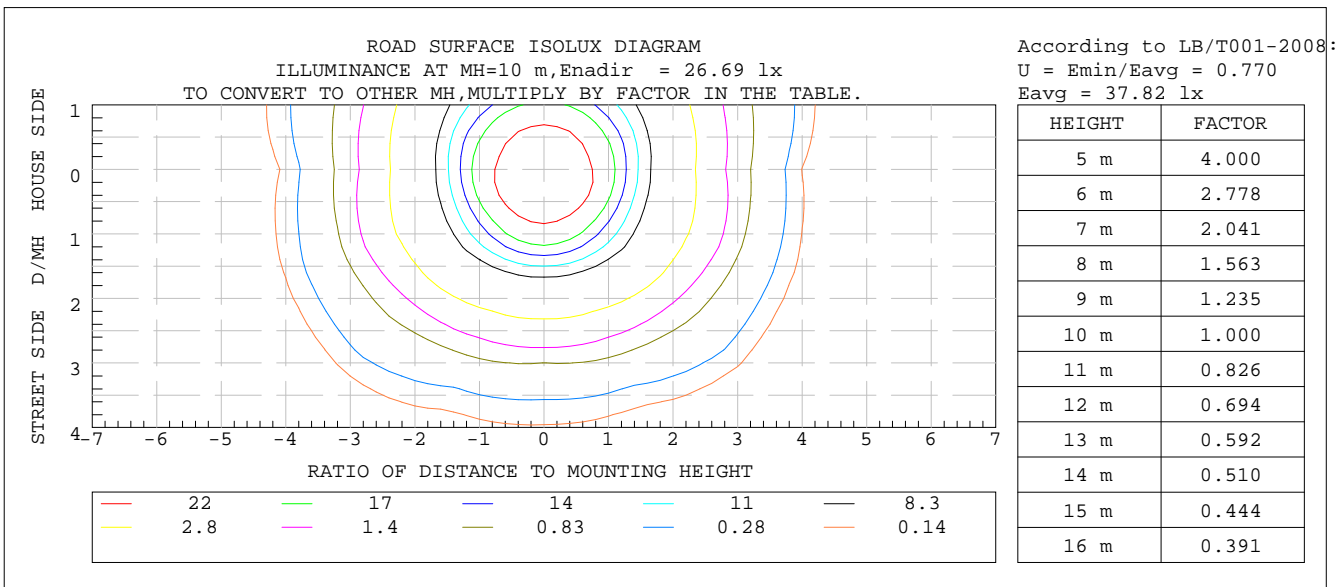
IES:Type V - Short
 CIE:Narrow - Intermediate
 IES:Full cut-off
 CIE:Full cut-off
 Max.At80:28.57cd/klm
 Max.At90:0cd/klm
 Max.80-90:28.57cd/klm
 NRB 5101:Limited[7.9%]

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	7741
90%	6967
80%	6193
70%	5418
60%	4644
50%	3870
40%	3096
30%	2322
20%	1548
10%	774
5%	387

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jonathan
Test Date: 2023-03-08

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity: 65.0%
Test Distance: 2.554m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.5W-g	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

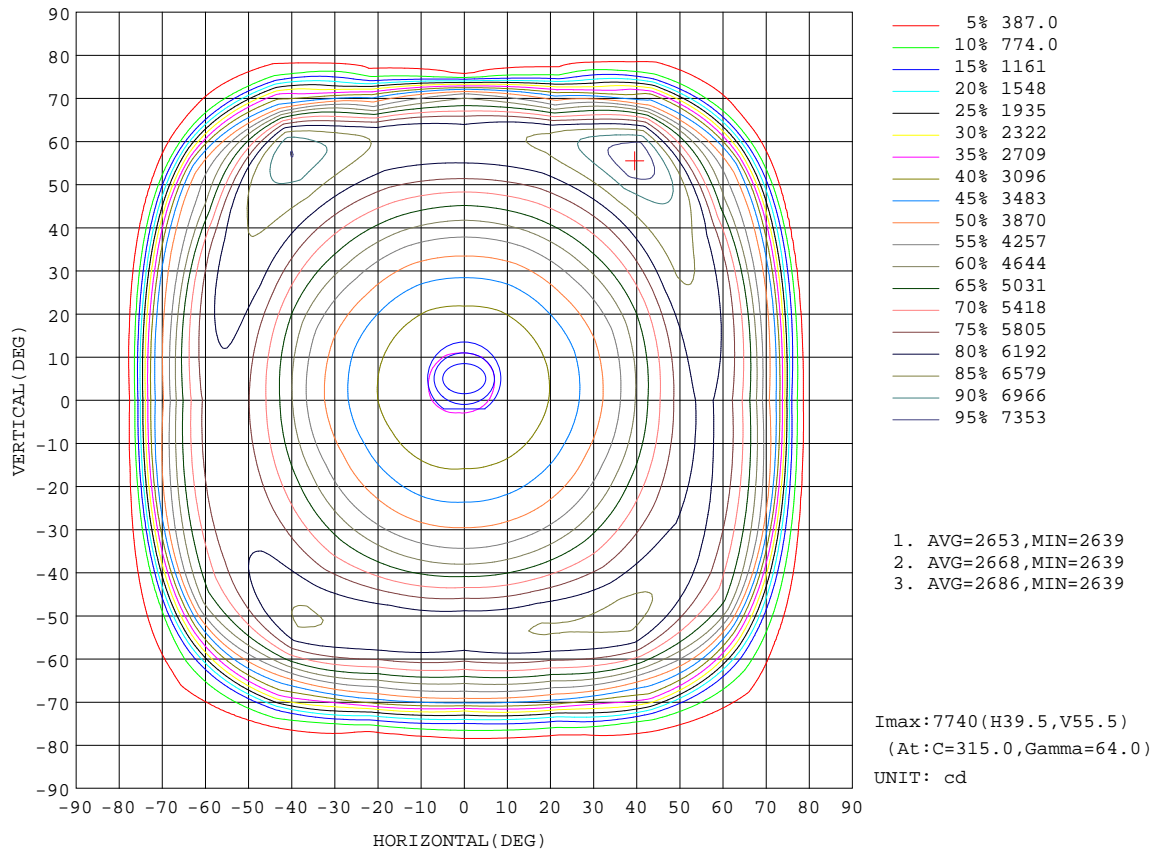
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum,lamp
10	2782	2842	2878	2826	2755	2700	2690	2719	0- 10	259.5	259.5	1.12,1.12
20	3116	3241	3286	3227	3095	3009	3008	3025	10- 20	835.6	1095	4.72,4.72
30	3707	3860	3902	3863	3693	3630	3598	3638	20- 30	1586	2681	11.6,11.6
40	4688	4806	4904	4788	4663	4567	4463	4554	30- 40	2630	5311	22.9,22.9
50	5955	5954	6317	5897	5816	5744	5634	5774	40- 50	4110	9421	40.6,40.6
60	6046	6744	5897	6661	5873	6933	6427	7195	50- 60	5637	15057	64.9,64.9
70	4022	4436	3585	4266	3805	6355	4652	6482	60- 70	5696	20753	89.4,89.4
80	233.9	491.1	259.0	348.9	221.6	609.5	114.8	662.9	70- 80	2350	23103	99.6,99.6
90	0	0	0	0	0	0	0	0	80- 90	98.85	23202	100,100
100	0	0	0	0	0	0	0	0	90-100	0	23202	100,100
110	0	0	0	0	0	0	0	0	100-110	0	23202	100,100
120	0	0	0	0	0	0	0	0	110-120	0	23202	100,100
130	0	0	0	0	0	0	0	0	120-130	0	23202	100,100
140	0	0	0	0	0	0	0	0	130-140	0	23202	100,100
150	0	0	0	0	0	0	0	0	140-150	0	23202	100,100
160	0	0	0	0	0	0	0	0	150-160	0	23202	100,100
170	0	0	0	0	0	0	0	0	160-170	0	23202	100,100
180	0	0	0	0	0	0	0	0	170-180	0	23202	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

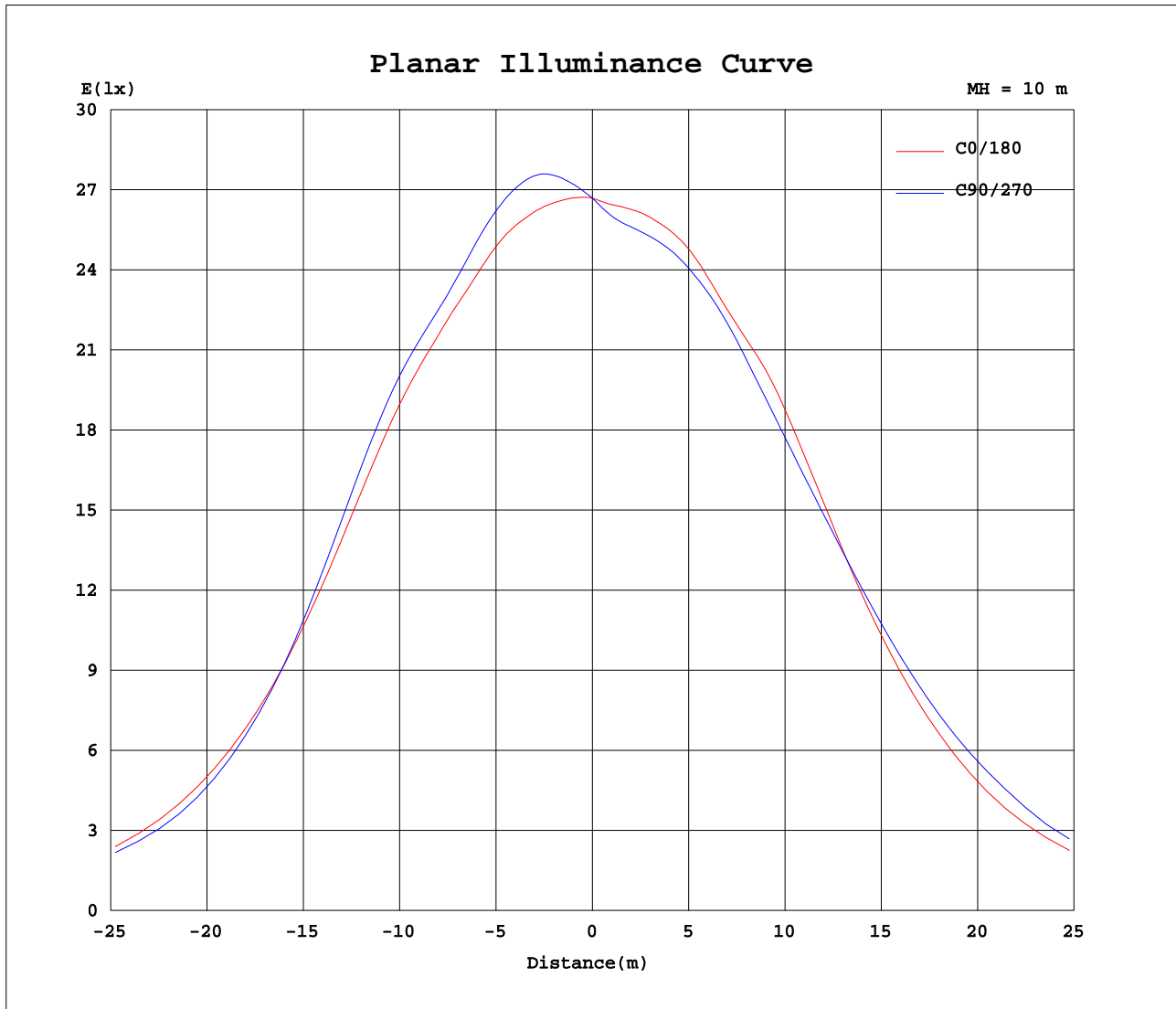
Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/160)30K-4.57K	MODEL: 4.57K
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

Planar Illuminance Curve



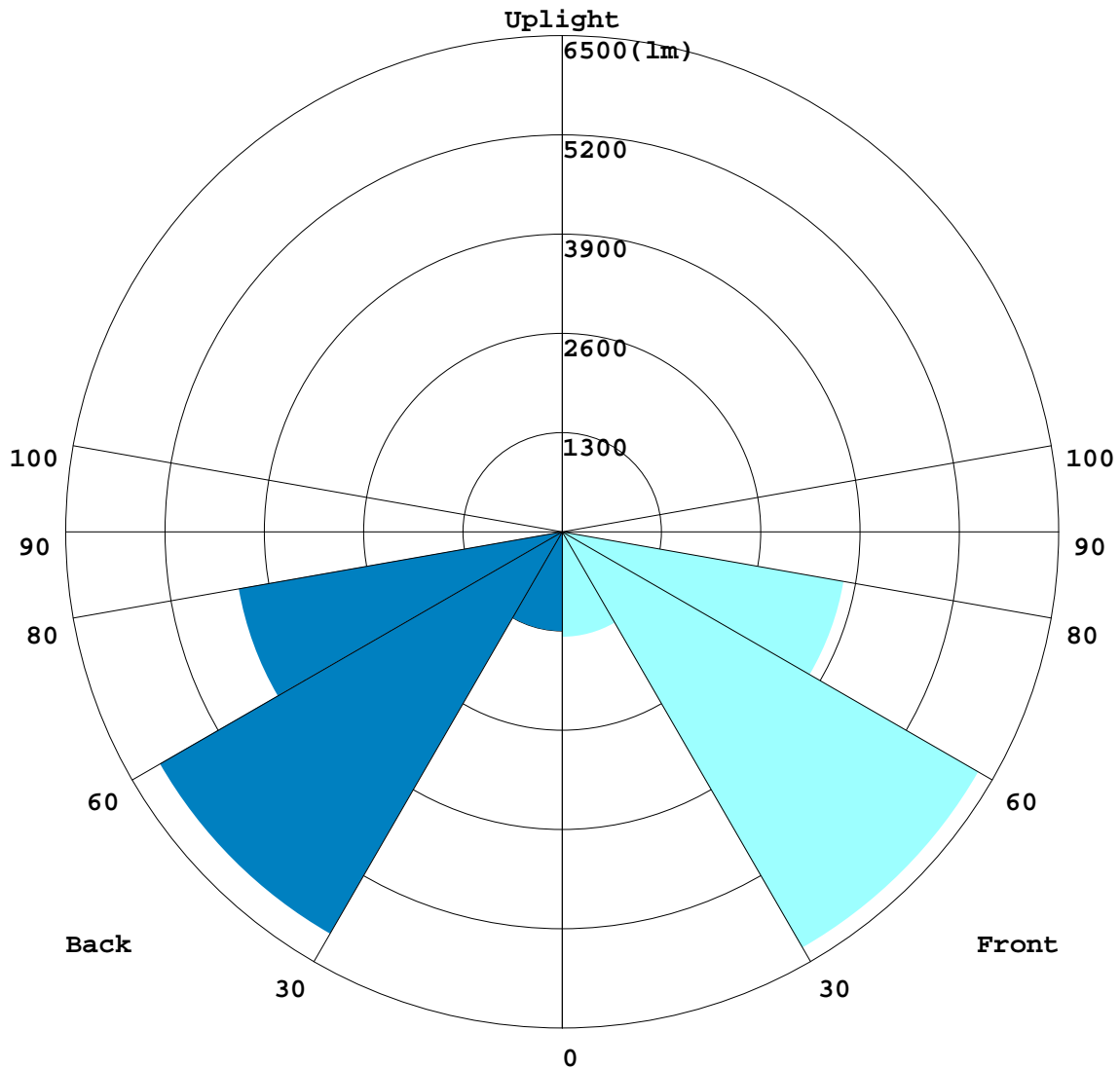
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Jonathan
 Test Date: 2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity: 65.0%
 Test Distance: 2.554m [K=1.0000]
 Remarks:

LCS REPORT

Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz		
Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.5W	MODEL: 4.5W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

LUMINAIRE CLASSIFICATION SYSTEM(LCS) GRAPH



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

BUG REPORT

Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)30K-4.5W	
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

IESNA Luminaire Flux Distribution Table:

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	1378.3	5.9
FM - Front-Medium(30-60)	6294.3	27.1
FH - Front-High(60-80)	3744.9	16.1
FVH - Front-Very High(80-90)	50.988	0.2
Total Forward Light	11469	49.4

BL - Back-Low(0-30)	1302.5	5.6
BM - Back-Medium(30-60)	6082.3	26.2
BH - Back-High(60-80)	4300.6	18.5
BVH - Back-Very High(80-90)	47.861	0.2
Total Back Light	11733	50.6

UL - Uplight-Low(90-100)	0	0.0
UH - Uplight-High(100-180)	0	0.0
Total Up Light	0	0.0

BUG(Back,Up,Glare) Rating	B4-U0-G2
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	11733	0	11733
Street Side	11469	0	11469

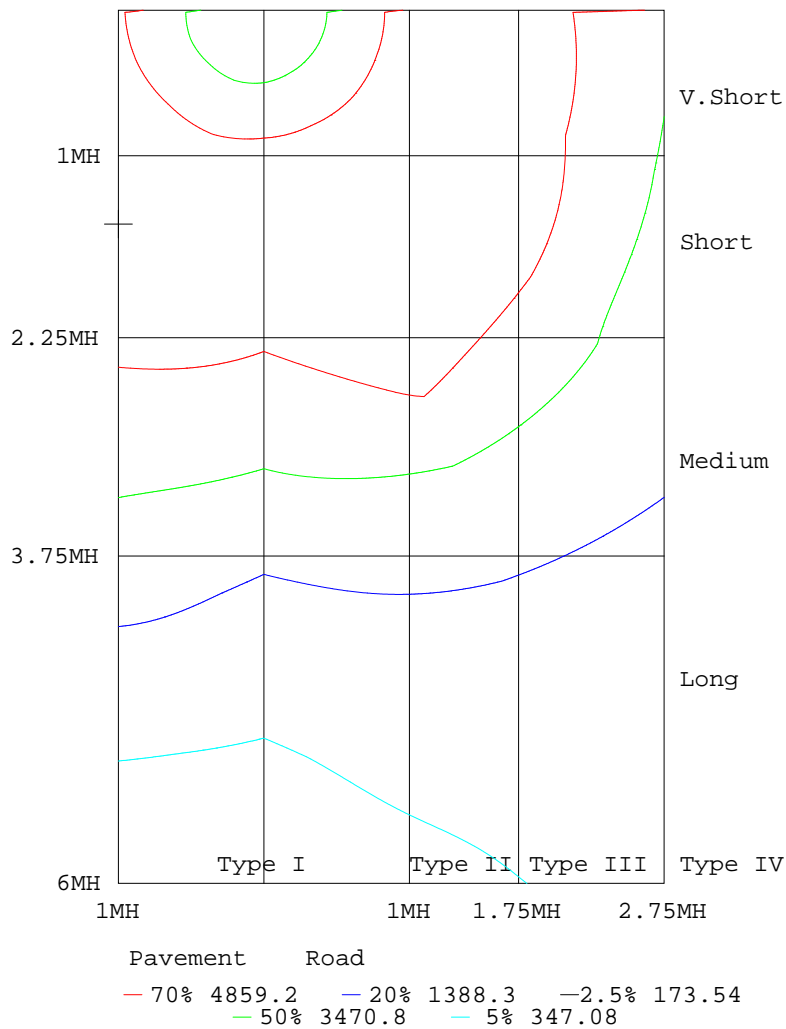
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jonathan
Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:2.554m [K=1.0000]
Remarks:

ROAD ISOCANDELA REPORT

Test:U:347.07V I:0.4278A P:147.47W PF:0.9932 Freq:60.00Hz Lamp Flux:23201.8x1 lm		
NAME: Roadway Luminaires	TYPE: LOC-SPAL-MW(50/80/100/180)SMD-4.5W	WEIGHT: 4.5W
SPEC.: 150.0W 21000lm	DIM.: L=0.35,W=0.275	SERIAL No.: N/A
MFR.: LED One Corporation	SUR.: 0.1*0.235	Shielding Angle: N/A

ROAD SURFACE ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jonathan
 Test Date:2023-03-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
 Humidity:65.0%
 Test Distance:2.554m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table with 3 columns: NAME, TYPE, SPEC., DIM., MFR., SUR., SERIAL No., Shielding Angle. Includes test parameters like U:347.07V, I:0.4278A, P:147.47W, PF:0.9932, Freq:60.00Hz, Lamp Flux:23201.8x1 lm.

Table--1

UNIT: cd

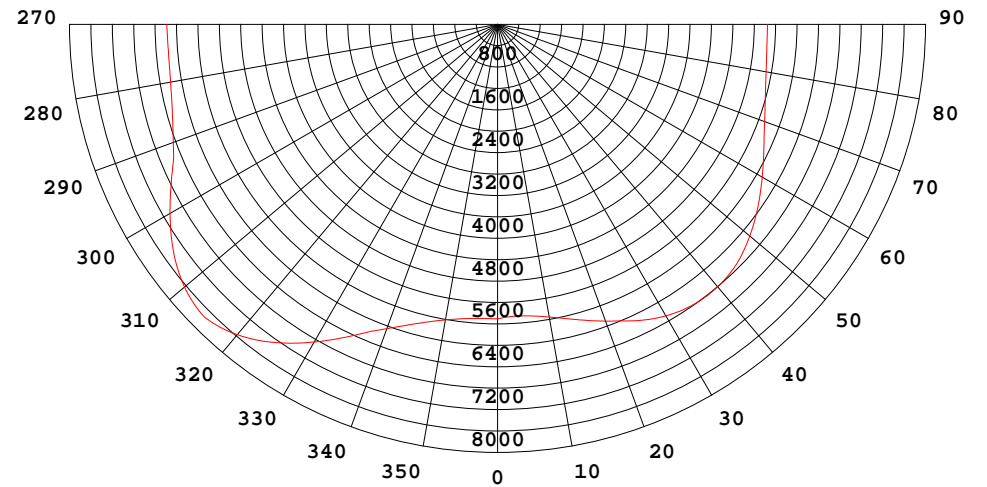
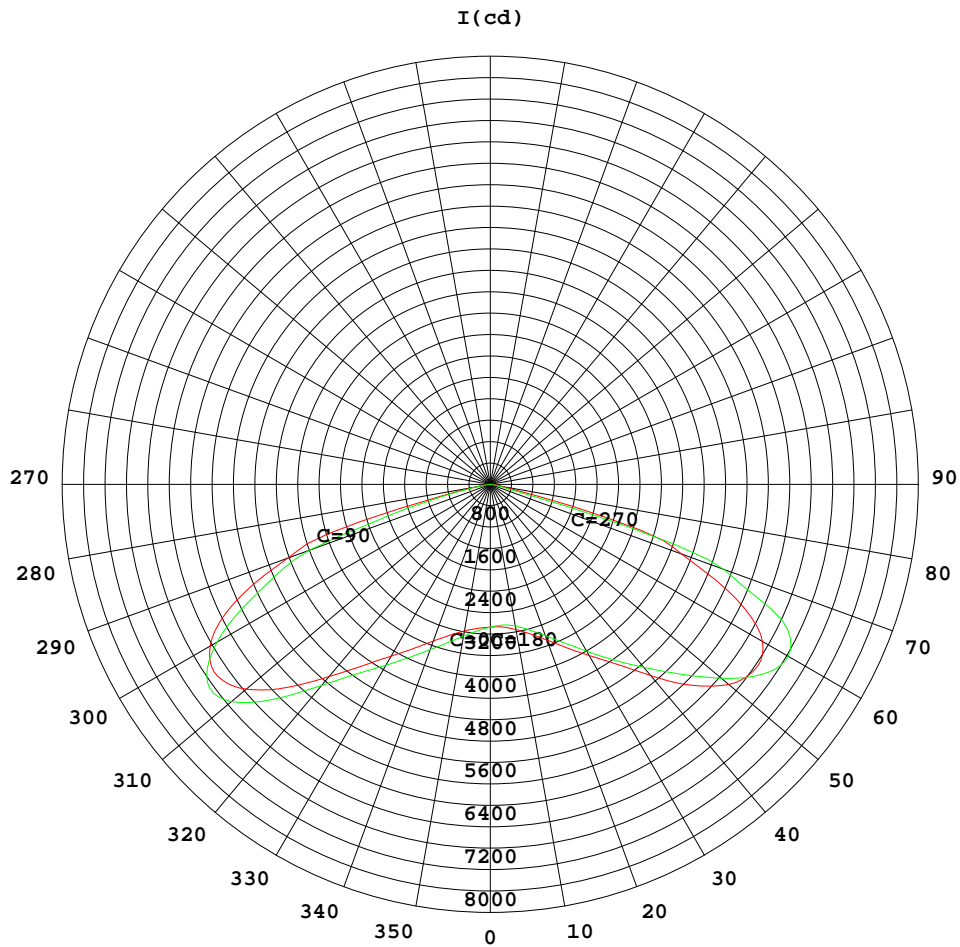
Large data table with columns for C (DEG) and gamma (DEG) ranging from 0 to 180. Contains luminous intensity values in candelas for various angles.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jonathan
Test Date:2023-03-08

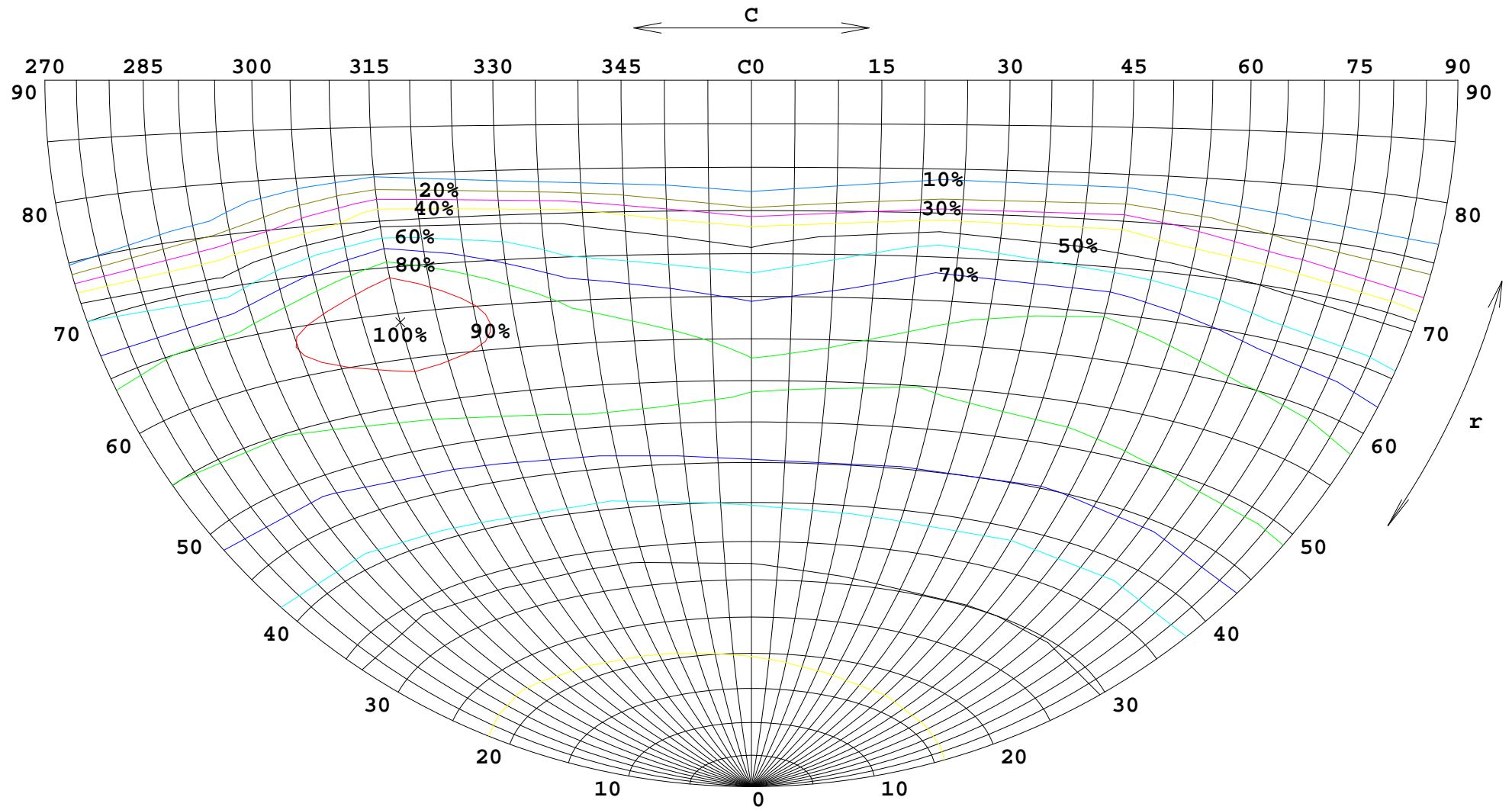
gamma Range: 0 - 180DEG
gamma Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.444
Humidity:65.0%
Test Distance:2.554m [K=1.0000]
Remarks:

FLUX DATA:

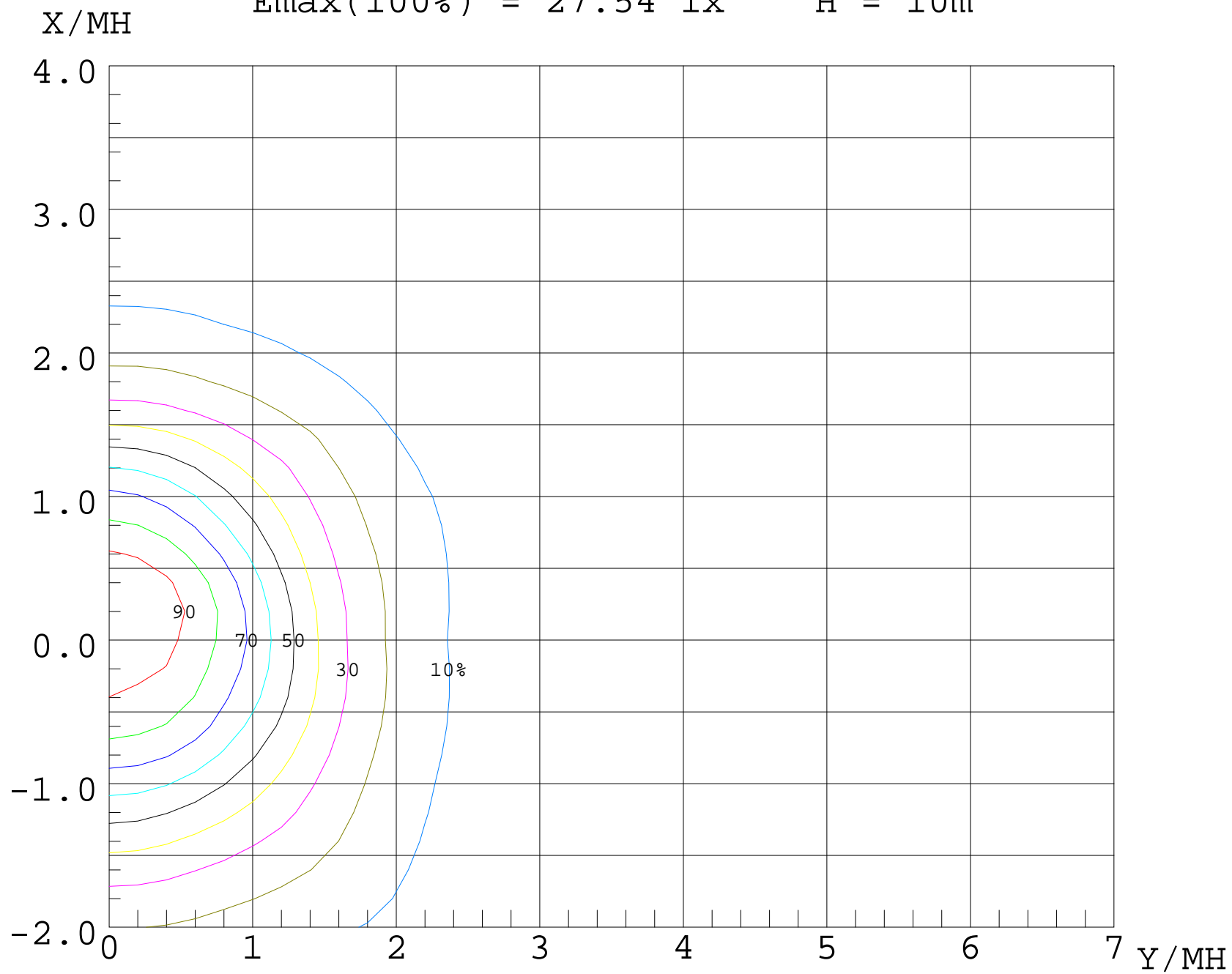
LOR: 100.0 %
STREET DOWN: 11469 lm
STREET UP: 0 lm
HOUSE DOWN: 11733 lm
HOUSE UP: 0 lm



$I_{\max}(100\%) = 7741 \text{ cd}$



$E_{\max}(100\%) = 27.54 \text{ lx}$ $H = 10\text{m}$



UF (%)

80

70

60

50

40

30

20

10

0

-2

-1

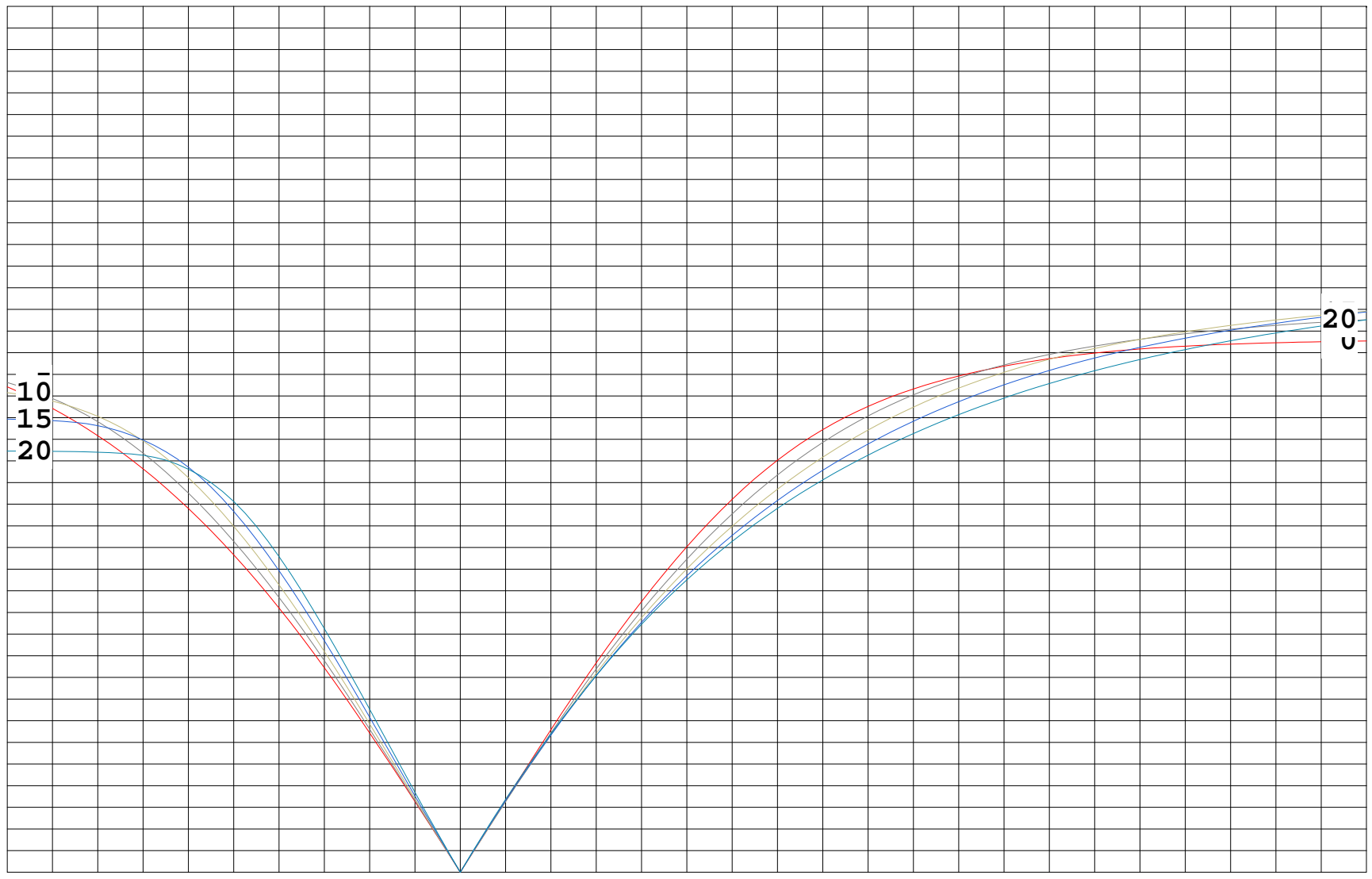
0

1

2

3

4 X/MH



10
15
20

20
U