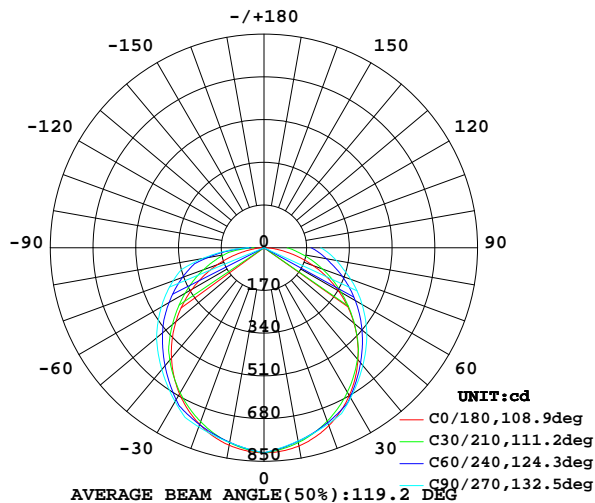


LUMINAIRE PHOTOMETRIC TEST REPORT

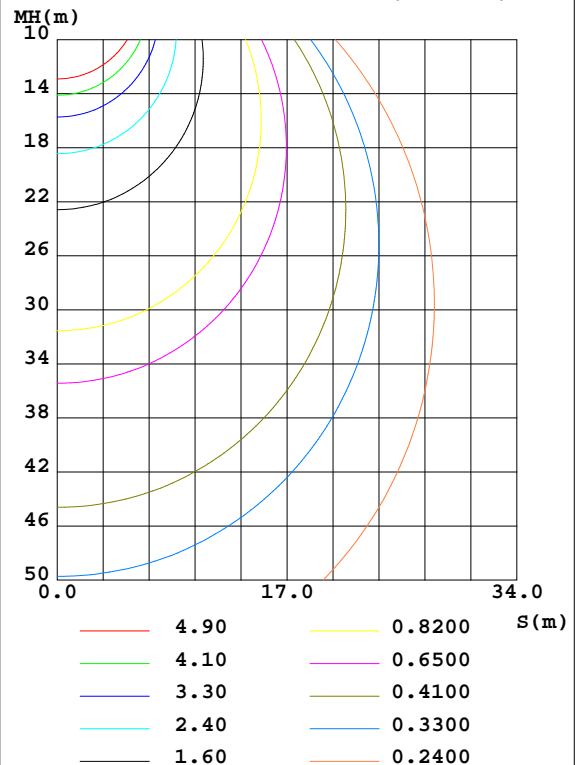
Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: LOC-4FTSL-MW(20/30/40)MCCT(35/40/50)D-EC	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 122.80 lm/W			
MODEL	5000	I _{max} (cd)	815.9	S/MH(C0/180)	1.23
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	2605.0	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	2604.98	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
5	812.1	801.7	798.4	801.0	811.0	803.2	801.6	804.1	0- 5	19.32	19.32	0.74,0.74
10	801.3	783.9	781.0	781.9	798.3	786.2	787.3	788.8	5- 10	56.88	76.20	2.93,2.93
15	781.0	762.0	763.5	759.8	777.3	765.9	773.0	769.8	10- 15	92.20	168.4	6.46,6.46
20	753.6	736.2	746.1	734.0	748.4	741.7	758.8	746.7	15- 20	124.5	292.9	11.2,11.2
25	719.6	707.6	728.7	705.2	713.4	714.3	744.5	721.3	20- 25	153.1	446.0	17.1,17.1
30	678.8	676.3	689.8	674.0	672.0	684.6	707.2	693.4	25- 30	177.0	623.1	23.9,23.9
35	632.8	638.2	651.0	635.9	624.7	647.6	670.0	657.9	30- 35	194.5	817.6	31.4,31.4
40	581.5	587.7	612.1	586.5	573.0	598.0	632.7	609.3	35- 40	205.9	1024	39.3,39.3
45	526.3	537.1	573.3	537.0	516.9	548.5	595.5	560.2	40- 45	211.4	1235	47.4,47.4
50	467.8	486.3	534.4	487.6	457.7	499.0	558.2	511.0	45- 50	211.3	1446	55.5,55.5
55	405.9	436.2	492.7	439.6	395.3	450.5	514.9	462.8	50- 55	205.9	1652	63.4,63.4
60	341.7	387.3	450.9	392.3	330.6	402.6	471.6	415.1	55- 60	195.3	1848	70.9,70.9
65	275.6	339.1	409.2	344.5	264.2	352.2	428.3	365.5	60- 65	180.6	2028	77.9,77.9
70	208.7	292.7	367.4	298.8	197.3	304.3	385.1	318.0	65- 70	162.4	2191	84.1,84.1
75	143.2	248.7	325.7	255.4	132.0	258.5	341.8	272.9	70- 75	141.9	2332	89.5,89.5
80	82.29	208.1	292.6	215.2	72.51	209.0	248.0	222.7	75- 80	118.6	2451	94.1,94.1
85	33.76	175.7	259.6	183.3	27.01	126.9	154.1	131.9	80- 85	91.08	2542	97.6,97.6
90	10.64	145.1	226.6	153.0	10.84	46.39	60.32	42.54	85- 90	62.82	2605	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

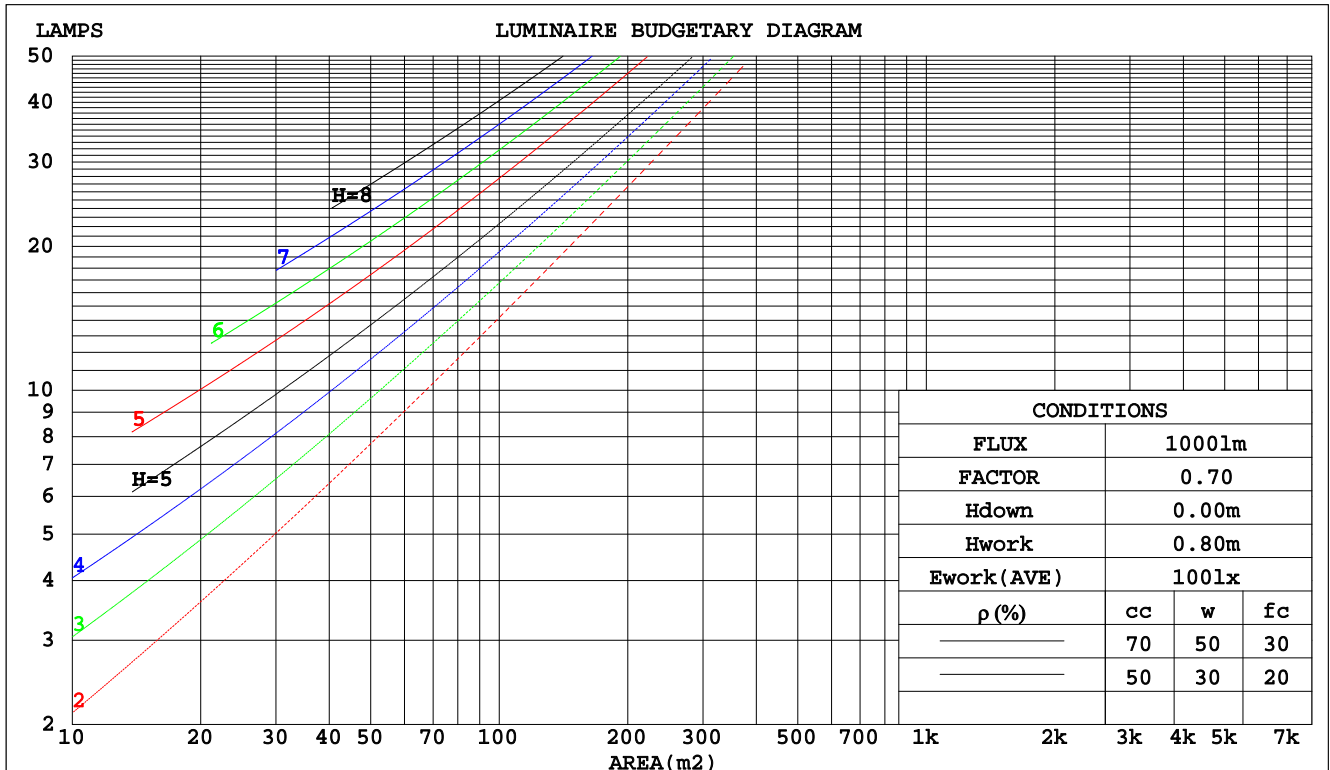
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.01	.96	.91	.98	.94	.90	.94	.90	.87	.90	.87	.84	.86	.84	.81	.79
2.0	.87	.79	.72	.85	.78	.72	.81	.75	.70	.78	.73	.68	.75	.70	.67	.64
3.0	.75	.66	.59	.74	.65	.59	.71	.64	.58	.68	.62	.57	.65	.60	.56	.53
4.0	.67	.57	.50	.65	.56	.49	.63	.55	.49	.60	.53	.48	.58	.52	.47	.45
5.0	.59	.50	.43	.58	.49	.42	.56	.48	.42	.54	.47	.41	.52	.46	.41	.39
6.0	.53	.44	.37	.52	.43	.37	.50	.42	.36	.49	.42	.36	.47	.41	.36	.34
7.0	.48	.39	.33	.47	.39	.32	.46	.38	.32	.44	.37	.32	.43	.36	.32	.30
8.0	.44	.35	.29	.43	.35	.29	.42	.34	.29	.41	.34	.28	.39	.33	.28	.26
9.0	.40	.32	.26	.40	.31	.26	.38	.31	.26	.37	.31	.26	.36	.30	.25	.24
10.0	.37	.29	.24	.37	.29	.23	.36	.28	.23	.35	.28	.23	.34	.28	.23	.21



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm								
NAME: MRS4-20/D10/U/50				TYPE:LED			WEIGHT:	
SPEC.:				DIM.:			SERIAL No.:	
MFR.: EVERFINE				SUR.:52*1219			PROTECTION ANGLE:	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.369	.210	.067	.362	.206	.066	.348	.200	.064	.336	.194	.062	.324	.188	.061	
2.0	.328	.180	.055	.322	.177	.055	.310	.172	.053	.299	.167	.052	.288	.163	.051	
3.0	.295	.157	.047	.289	.155	.047	.279	.151	.046	.269	.147	.045	.260	.144	.044	
4.0	.267	.139	.041	.262	.137	.041	.253	.134	.040	.244	.131	.040	.236	.128	.039	
5.0	.244	.124	.036	.240	.123	.036	.231	.120	.035	.223	.118	.035	.216	.115	.035	
6.0	.224	.112	.032	.220	.111	.032	.213	.109	.032	.206	.107	.031	.199	.105	.031	
7.0	.207	.102	.029	.204	.101	.029	.197	.100	.029	.191	.098	.028	.185	.096	.028	
8.0	.192	.094	.026	.189	.093	.026	.183	.092	.026	.178	.090	.026	.173	.089	.026	
9.0	.180	.087	.024	.177	.086	.024	.172	.085	.024	.167	.083	.024	.162	.082	.024	
10.0	.168	.081	.022	.166	.080	.022	.161	.079	.022	.156	.078	.022	.152	.077	.022	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.184	.156	.130	.158	.134	.112	.108	.092	.077	.062	.053	.045	.020	.017	.015	
2.0	.177	.132	.094	.152	.113	.081	.104	.078	.056	.060	.046	.033	.019	.015	.011	
3.0	.169	.114	.071	.145	.099	.061	.100	.069	.043	.058	.040	.025	.018	.013	.008	
4.0	.161	.101	.056	.138	.088	.048	.095	.061	.034	.055	.036	.020	.018	.012	.007	
5.0	.153	.091	.045	.132	.079	.039	.091	.055	.028	.053	.032	.016	.017	.011	.005	
6.0	.146	.083	.038	.125	.072	.033	.086	.050	.023	.050	.030	.014	.016	.010	.005	
7.0	.139	.076	.032	.119	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004	
8.0	.132	.070	.028	.113	.061	.024	.078	.043	.017	.046	.025	.010	.015	.008	.003	
9.0	.125	.065	.025	.108	.057	.021	.075	.040	.015	.044	.023	.009	.014	.008	.003	
10.0	.119	.061	.022	.103	.053	.019	.071	.037	.014	.042	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm											
NAME: MRS4-20/D10/U/50					TYPE:LED			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: EVERFINE					SUR.:52*1219			PROTECTION ANGLE:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H	2H	20.7	22.3	21.0	22.5	22.7	22.0	23.6	22.3	23.9	24.1
	3H	22.2	23.7	22.5	23.9	24.1	24.4	25.9	24.7	26.2	26.4
	4H	22.7	24.1	23.0	24.4	24.7	25.7	27.2	26.1	27.4	27.7
	6H	23.1	24.4	23.4	24.7	25.0	27.2	28.5	27.5	28.8	29.1
	8H	23.2	24.5	23.5	24.8	25.1	28.0	29.3	28.3	29.6	29.9
	12H	23.2	24.5	23.6	24.8	25.1	28.9	30.2	29.3	30.5	30.8
4H	2H	21.6	23.0	21.9	23.3	23.6	22.6	24.1	23.0	24.3	24.6
	3H	23.3	24.6	23.7	24.9	25.2	25.3	26.5	25.6	26.8	27.2
	4H	24.0	25.2	24.4	25.5	25.9	26.8	27.9	27.1	28.3	28.6
	6H	24.6	25.6	25.0	26.0	26.4	28.4	29.5	28.8	29.9	30.2
	8H	24.7	25.7	25.2	26.1	26.5	29.4	30.4	29.8	30.7	31.1
	12H	24.8	25.8	25.3	26.2	26.6	30.5	31.4	30.9	31.8	32.2
8H	4H	24.9	25.9	25.3	26.2	26.6	27.1	28.1	27.5	28.5	28.9
	6H	25.8	26.6	26.2	27.0	27.4	29.1	29.9	29.5	30.3	30.8
	8H	26.1	26.9	26.6	27.3	27.7	30.3	31.0	30.7	31.4	31.9
	12H	26.4	27.0	26.8	27.5	27.9	31.6	32.3	32.1	32.7	33.2
12H	4H	25.1	26.1	25.6	26.4	26.9	27.1	28.1	27.6	28.4	28.9
	6H	26.2	27.0	26.7	27.4	27.8	29.2	30.0	29.7	30.4	30.8
	8H	26.7	27.4	27.2	27.8	28.3	30.5	31.1	31.0	31.6	32.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.4					

CIE Pub.117 Corrected 2605 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.3)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	55	43	35	54	42	35	53	42	35	28
0.80	64	52	44	63	52	44	61	51	44	36
1.00	72	61	53	71	60	52	69	62	52	44
1.25	79	68	60	78	67	60	75	66	59	51
1.50	84	74	66	83	73	65	80	71	64	56
2.00	92	82	75	90	81	74	86	78	72	64
2.50	96	87	80	94	85	79	90	83	77	68
3.00	99	91	85	97	90	84	93	87	82	73
4.00	104	97	91	101	95	90	97	92	87	78
5.00	106	101	96	104	99	94	99	95	91	81
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

Conical surface Flux(90deg):

1234.9 lm

%lum = 47.4%

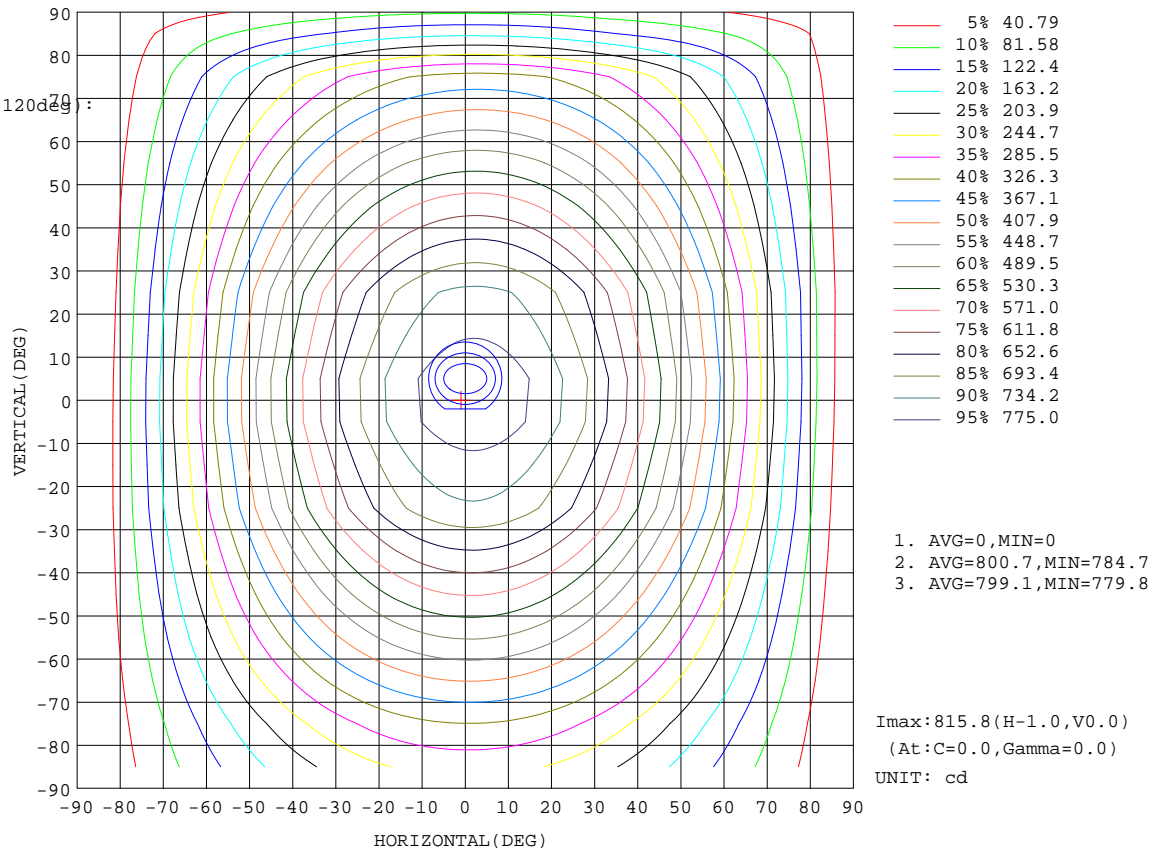
%lamp = 47.4%

Conical surface Flux(120deg):

1847.5 lm

%lum = 70.9%

%lamp = 70.9%



C Range: 0 - 360DEG

C Interval: 5.0DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:DAMIN

Test Date:2021-04

 γ Range: 0 - 90DEG γ Interval: 0.5DEG

Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290

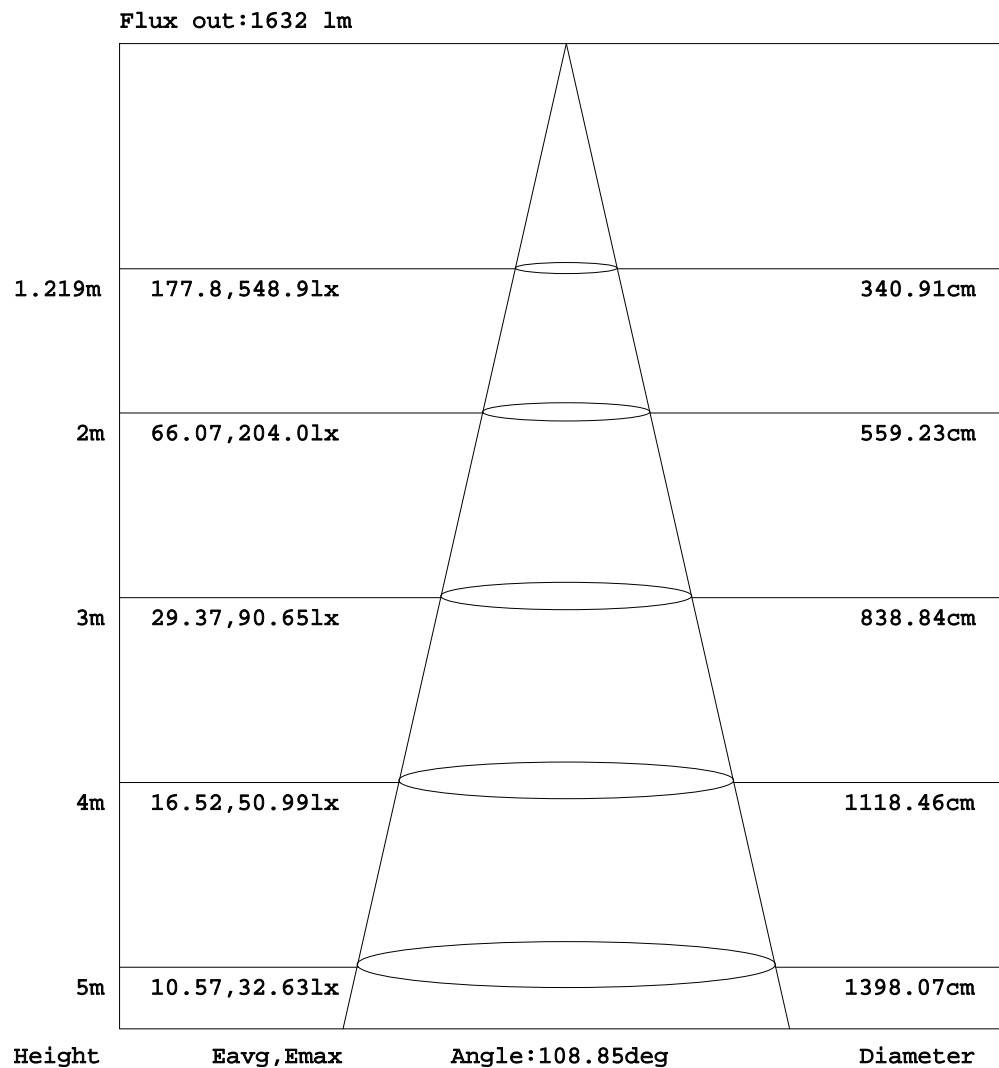
Humidity:65.0%

Test Distance:8.750m [K=1.0000]

Remarks:

AAI Figure

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:



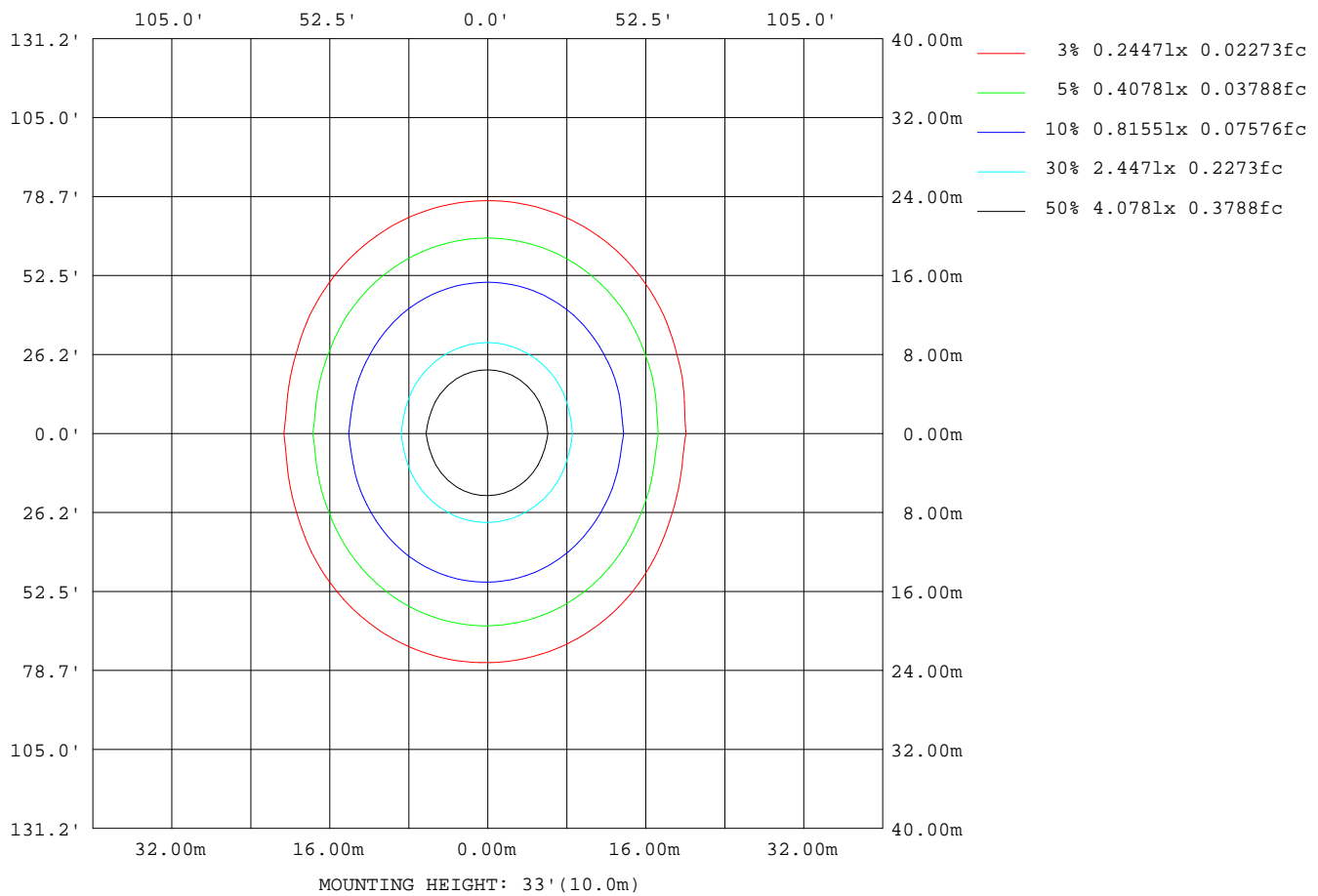
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

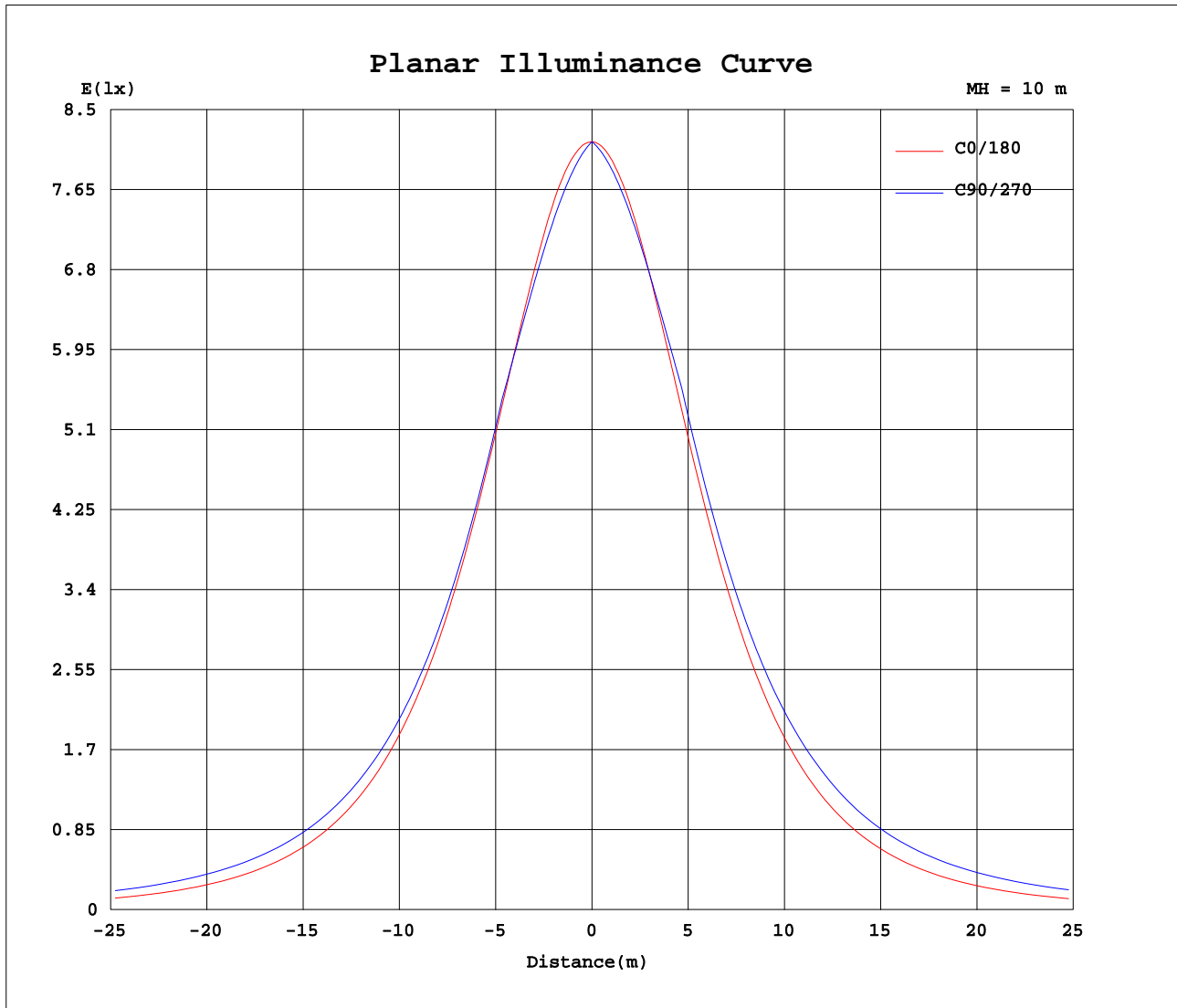
AvgL	cd/m2
L_0~180(65)av	10075
L_0~180(75)av	8386
L_0~180(85)av	5501
L_90~270(65)av	15632
L_90~270(75)av	20341
L_90~270(85)av	37446
L_45(65)av	13077
L_45(75)av	15779
L_45(85)av	27953

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity: 65.0%
Test Distance: 8.750m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```


LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.5V I:0.1778A P:21.21W PF:0.9919 Lamp Flux:2604.98x1 lm		
NAME: MRS4-20/D10/U/50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: EVERFINE	SUR.:52*1219	PROTECTION ANGLE:

Table--4

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```