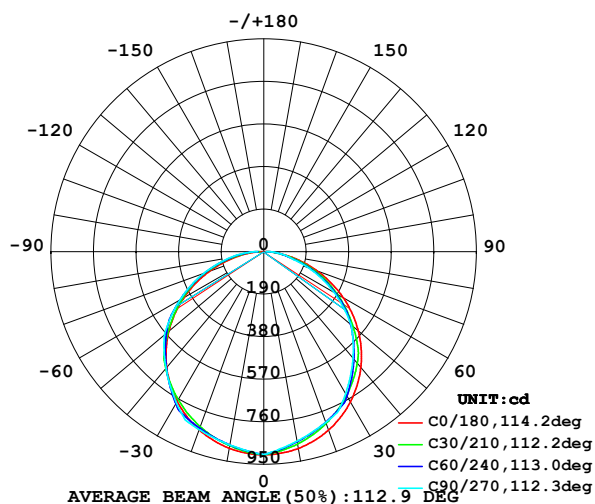


LUMINAIRE PHOTOMETRIC TEST REPORT

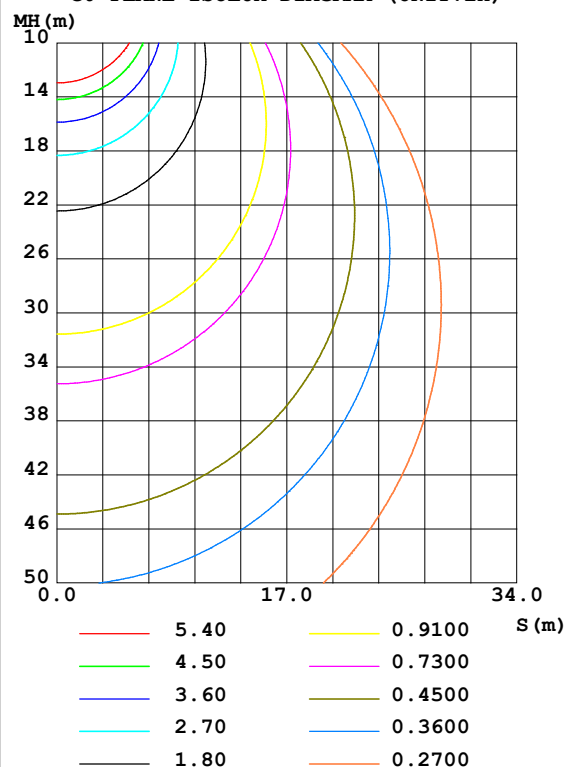
Test:U:120.0V I:0.1635A P:19.56W PF:0.9966 Lamp Flux:712.387x3 lm		
NAME: BPLED-14-19/D10/U/50/HL	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 133.13 lm/W			
MODEL		Imax(cd)	907.0	S/MH(C0/180)	1.27
NOMINAL POWER(W)	19	LOR(%)	121.9	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	2604.7	η UP,DN(C0-180)	0.0,58.1
NOMINAL FLUX(lm)	712.387	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,63.8
LAMPS INSIDE	3	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	121.9	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:25DEG
 Operators:
 Test Date:2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:50%
 Test Distance:8.600m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

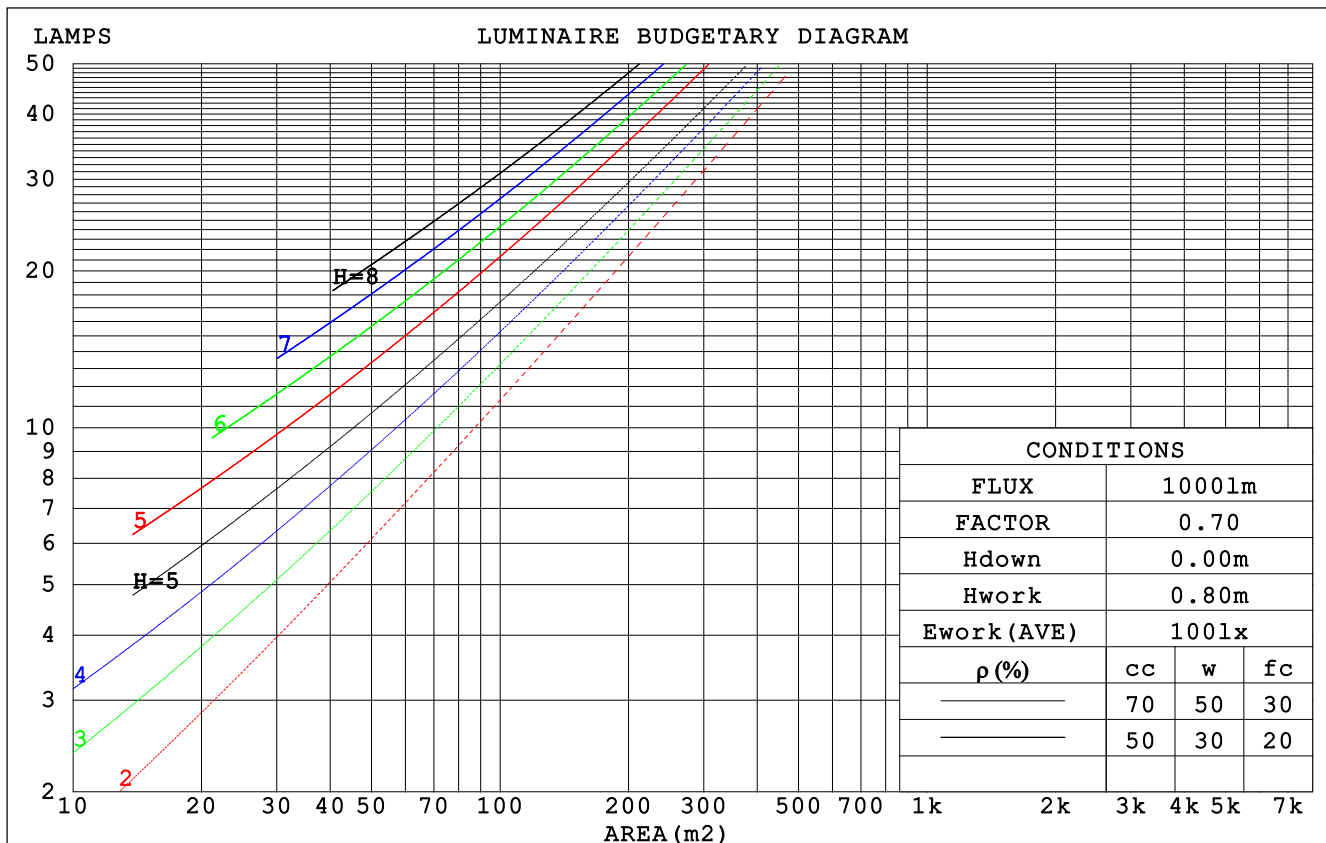
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	903.4	888.4	883.1	888.1	903.0	894.1	891.7	894.4	0- 5	21.47	21.47	0.82,1
10	892.4	866.1	859.2	865.5	891.4	877.5	876.3	878.2	5- 10	63.17	84.63	3.25,3.96
15	873.7	840.4	835.3	839.3	872.5	857.3	860.9	858.3	10- 15	102.4	187.0	7.18,8.75
20	847.7	811.4	811.4	810.1	846.4	834.0	845.5	835.2	15- 20	138.4	325.5	12.5,15.2
25	814.6	779.4	787.5	777.8	813.1	807.5	830.2	809.0	20- 25	170.6	496.1	19,23.2
30	774.4	744.9	731.9	743.2	773.2	778.5	780.1	780.2	25- 30	197.4	693.4	26.6,32.4
35	727.8	700.4	676.2	698.7	727.0	739.0	730.0	740.6	30- 35	216.4	909.9	34.9,42.6
40	674.8	637.4	620.5	635.8	674.8	679.7	679.8	681.0	35- 40	228.1	1138	43.7,53.2
45	616.0	573.3	564.9	572.0	616.9	619.4	629.7	620.1	40- 45	232.6	1371	52.6,64.1
50	551.4	508.7	509.2	507.6	553.5	558.6	579.6	558.6	45- 50	230.1	1601	61.5,74.9
55	482.4	444.1	435.1	443.2	484.9	497.8	506.0	497.1	50- 55	220.2	1821	69.9,85.2
60	408.9	378.3	361.0	377.3	412.0	435.1	432.4	433.6	55- 60	201.8	2023	77.7,94.6
65	332.5	302.2	286.9	300.8	336.2	356.6	358.8	355.2	60- 65	176.7	2200	84.4,103
70	254.8	228.1	212.8	226.2	259.1	280.0	285.2	279.1	65- 70	146.3	2346	90.1,110
75	178.6	156.0	138.7	153.7	182.5	205.5	211.6	205.1	70- 75	112.3	2458	94.4,115
80	107.5	90.00	96.11	87.42	112.3	134.9	150.3	135.1	75- 80	77.93	2536	97.4,119
85	46.67	50.32	53.53	48.84	51.81	77.80	89.07	78.34	80- 85	47.70	2584	99.2,121
90	6.899	11.15	10.96	10.80	11.33	21.50	27.81	22.44	85- 90	20.89	2605	100,122
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:25DEG
 Operators:
 Test Date:2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:50%
 Test Distance:8.600m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.45	1.45	1.45	1.42	1.42	1.42	1.35	1.35	1.35	1.30	1.30	1.30	1.24	1.24	1.24	1.22
1.0	1.26	1.21	1.16	1.23	1.18	1.14	1.18	1.14	1.10	1.13	1.10	1.07	1.09	1.06	1.04	1.01
2.0	1.09	1.01	.94	1.07	.99	.93	1.03	.96	.90	.99	.93	.88	.95	.90	.86	.84
3.0	.96	.86	.78	.94	.85	.77	.90	.82	.76	.87	.80	.74	.84	.78	.73	.70
4.0	.85	.74	.66	.83	.73	.65	.80	.71	.64	.77	.70	.63	.75	.68	.62	.60
5.0	.76	.65	.56	.74	.64	.56	.72	.63	.55	.69	.61	.55	.67	.60	.54	.52
6.0	.68	.57	.49	.67	.57	.49	.65	.55	.48	.63	.54	.48	.61	.53	.48	.45
7.0	.62	.51	.43	.61	.50	.43	.59	.50	.43	.57	.49	.43	.55	.48	.42	.40
8.0	.56	.46	.39	.55	.45	.38	.54	.45	.38	.52	.44	.38	.51	.43	.38	.35
9.0	.52	.42	.35	.51	.41	.35	.50	.41	.34	.48	.40	.34	.47	.39	.34	.32
10.0	.48	.38	.31	.47	.38	.31	.46	.37	.31	.45	.37	.31	.44	.36	.31	.29



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity: 50%
 Test Distance: 8.600m [K=1.0000]
 Remarks:

WEC AND CCEC

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	.390	.221	.070	.381	.217	.069	.365	.209	.067	.350	.202	.065	.336	.195	.063		
2.0	.363	.199	.061	.355	.196	.060	.341	.189	.059	.327	.184	.057	.315	.178	.056		
3.0	.334	.178	.053	.327	.175	.053	.314	.170	.052	.303	.166	.051	.292	.162	.050		
4.0	.307	.160	.047	.301	.158	.047	.290	.154	.046	.280	.150	.045	.270	.147	.045		
5.0	.283	.144	.042	.278	.143	.042	.268	.140	.041	.259	.137	.041	.250	.134	.040		
6.0	.263	.132	.038	.258	.130	.037	.249	.128	.037	.241	.125	.037	.233	.123	.036		
7.0	.244	.121	.034	.240	.120	.034	.232	.117	.034	.225	.115	.033	.218	.113	.033		
8.0	.228	.111	.031	.224	.110	.031	.217	.108	.031	.210	.107	.031	.204	.105	.031		
9.0	.213	.103	.029	.210	.102	.029	.204	.101	.029	.198	.099	.028	.192	.097	.028		
10.0	.200	.096	.027	.197	.095	.027	.192	.094	.026	.186	.093	.026	.181	.091	.026		

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	.232	.232	.232	.198	.198	.198	.135	.135	.135	.078	.078	.078	.025	.025	.025	
1.0	.221	.190	.163	.189	.163	.140	.129	.112	.097	.074	.065	.056	.024	.021	.018	
2.0	.211	.161	.119	.181	.138	.103	.124	.096	.072	.071	.056	.042	.023	.018	.014	
3.0	.201	.139	.090	.173	.120	.078	.119	.084	.055	.068	.049	.032	.022	.016	.011	
4.0	.192	.123	.071	.165	.106	.061	.113	.074	.043	.066	.043	.026	.021	.014	.008	
5.0	.183	.111	.057	.157	.096	.050	.108	.067	.035	.063	.039	.021	.020	.013	.007	
6.0	.174	.100	.047	.150	.087	.041	.103	.061	.029	.060	.036	.017	.019	.012	.006	
7.0	.166	.092	.040	.143	.080	.035	.098	.056	.025	.057	.033	.015	.018	.011	.005	
8.0	.158	.085	.035	.136	.074	.030	.094	.052	.022	.055	.030	.013	.018	.010	.004	
9.0	.150	.079	.031	.129	.068	.027	.090	.048	.019	.052	.028	.011	.017	.009	.004	
10.0	.143	.074	.027	.124	.064	.024	.086	.045	.017	.050	.027	.010	.016	.009	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:50%
 Test Distance:8.600m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

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	13.5	15.0	13.8	15.2	15.4	13.1	14.7	13.4	14.9	15.1
3H	15.0	16.4	15.3	16.7	16.9	14.5	15.9	14.8	16.2	16.4
4H	15.6	17.0	15.9	17.2	17.5	15.0	16.3	15.3	16.6	16.8
6H	16.1	17.3	16.4	17.6	17.9	15.4	16.7	15.7	16.9	17.2
8H	16.2	17.4	16.5	17.7	18.0	15.6	16.8	15.9	17.1	17.4
12H	16.3	17.5	16.6	17.8	18.1	15.7	16.9	16.1	17.2	17.5
4H 2H	14.0	15.4	14.4	15.6	15.9	13.8	15.1	14.1	15.4	15.6
3H	15.7	16.9	16.1	17.2	17.5	15.3	16.5	15.6	16.8	17.1
4H	16.5	17.6	16.8	17.9	18.2	15.9	17.0	16.3	17.3	17.6
6H	17.0	18.0	17.4	18.4	18.7	16.4	17.4	16.8	17.7	18.1
8H	17.2	18.1	17.6	18.5	18.9	16.7	17.6	17.1	17.9	18.3
12H	17.3	18.2	17.8	18.6	19.0	16.9	17.7	17.3	18.1	18.5
8H 4H	16.7	17.6	17.1	17.9	18.3	16.2	17.1	16.6	17.4	17.8
6H	17.4	18.1	17.8	18.5	19.0	16.8	17.6	17.3	18.0	18.4
8H	17.6	18.3	18.1	18.7	19.2	17.2	17.9	17.6	18.3	18.7
12H	17.8	18.4	18.3	18.9	19.4	17.5	18.1	18.0	18.5	19.0
12H 4H	16.7	17.5	17.1	17.9	18.3	16.2	17.0	16.6	17.4	17.8
6H	17.4	18.1	17.9	18.5	19.0	16.9	17.6	17.4	18.0	18.5
8H	17.7	18.3	18.2	18.8	19.2	17.3	17.9	17.8	18.3	18.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.4				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 2137 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.6)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity: 50%
 Test Distance: 8.600m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	69	55	47	69	55	46	67	54	46	38
0.80	82	67	58	80	67	58	78	66	58	49
1.00	92	78	69	90	77	69	88	79	68	59
1.25	101	88	79	99	87	78	95	85	77	68
1.50	107	94	86	105	93	85	101	91	84	74
2.00	115	104	96	113	103	95	108	100	94	84
2.50	120	110	103	117	108	102	113	105	99	89
3.00	124	115	109	121	114	107	116	110	105	94
4.00	129	122	116	126	120	114	121	116	111	100
5.00	132	126	121	129	123	119	123	119	115	104
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: 25DEG
 Operators:
 Test Date: 2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity: 50%
 Test Distance: 8.600m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Conical surface Flux(90deg):

1370.6 lm

%lum = 52.6%

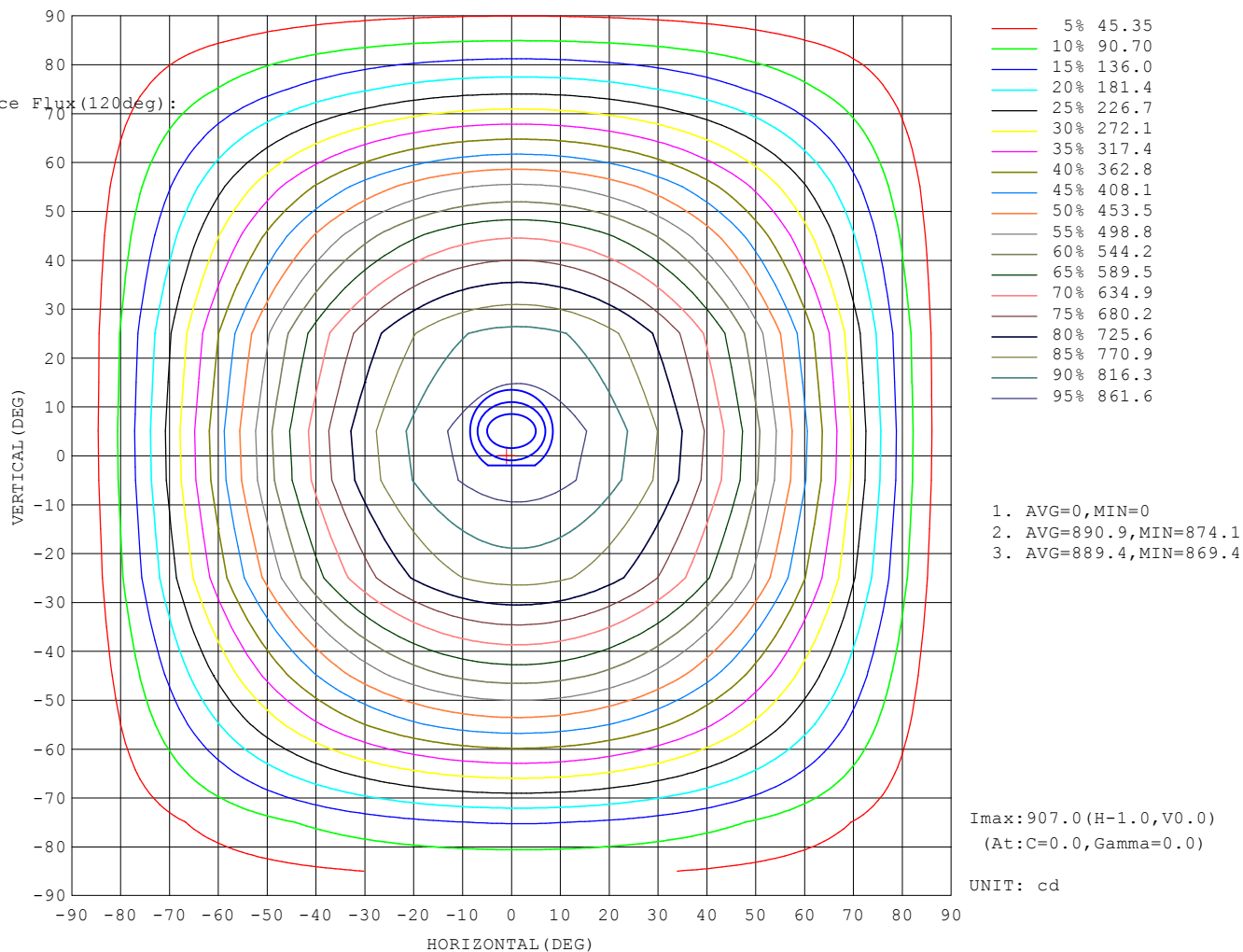
%lamp = 64.1%

Conical surface Flux(120deg):

2022.8 lm

%lum = 77.7%

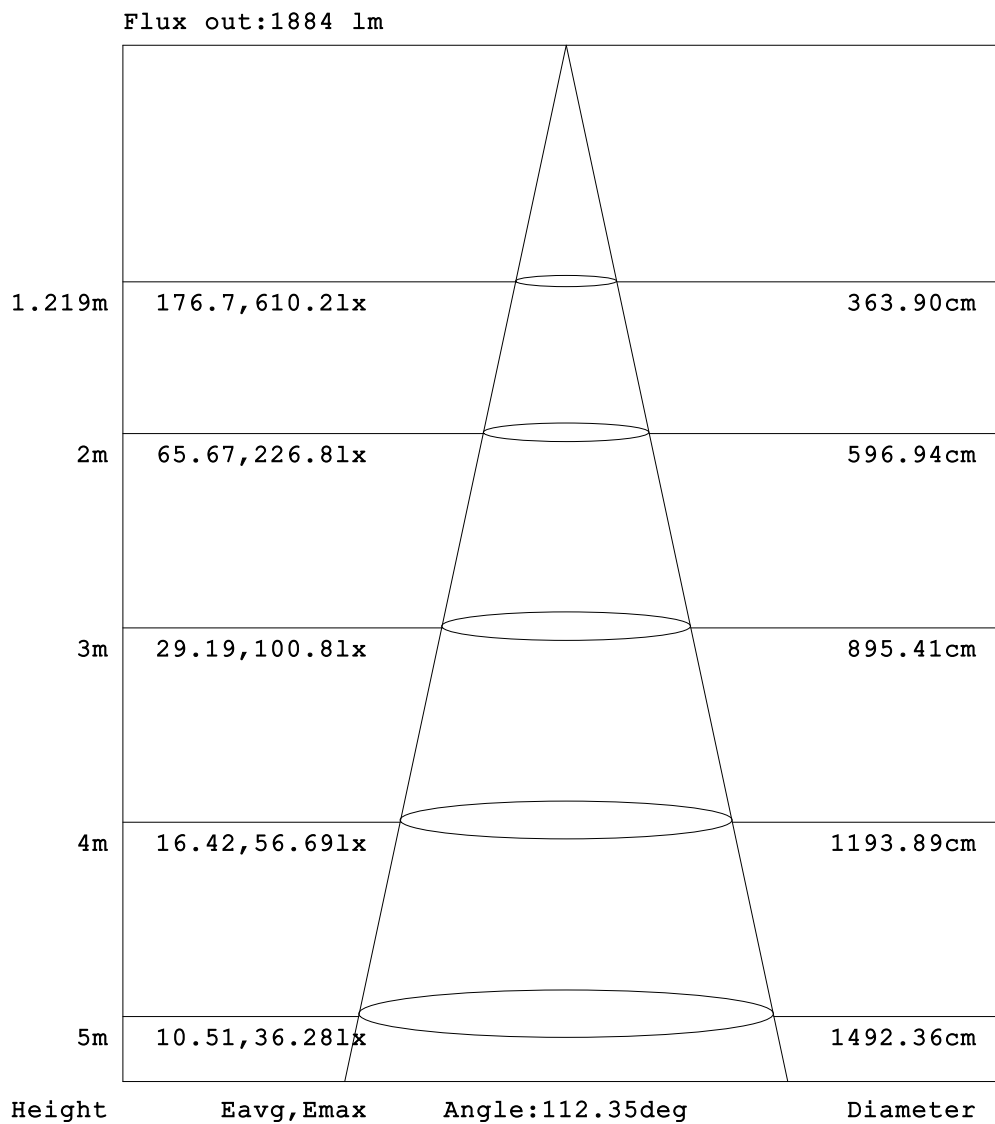
%lamp = 94.6%



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2019-12-31

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

AAI Figure

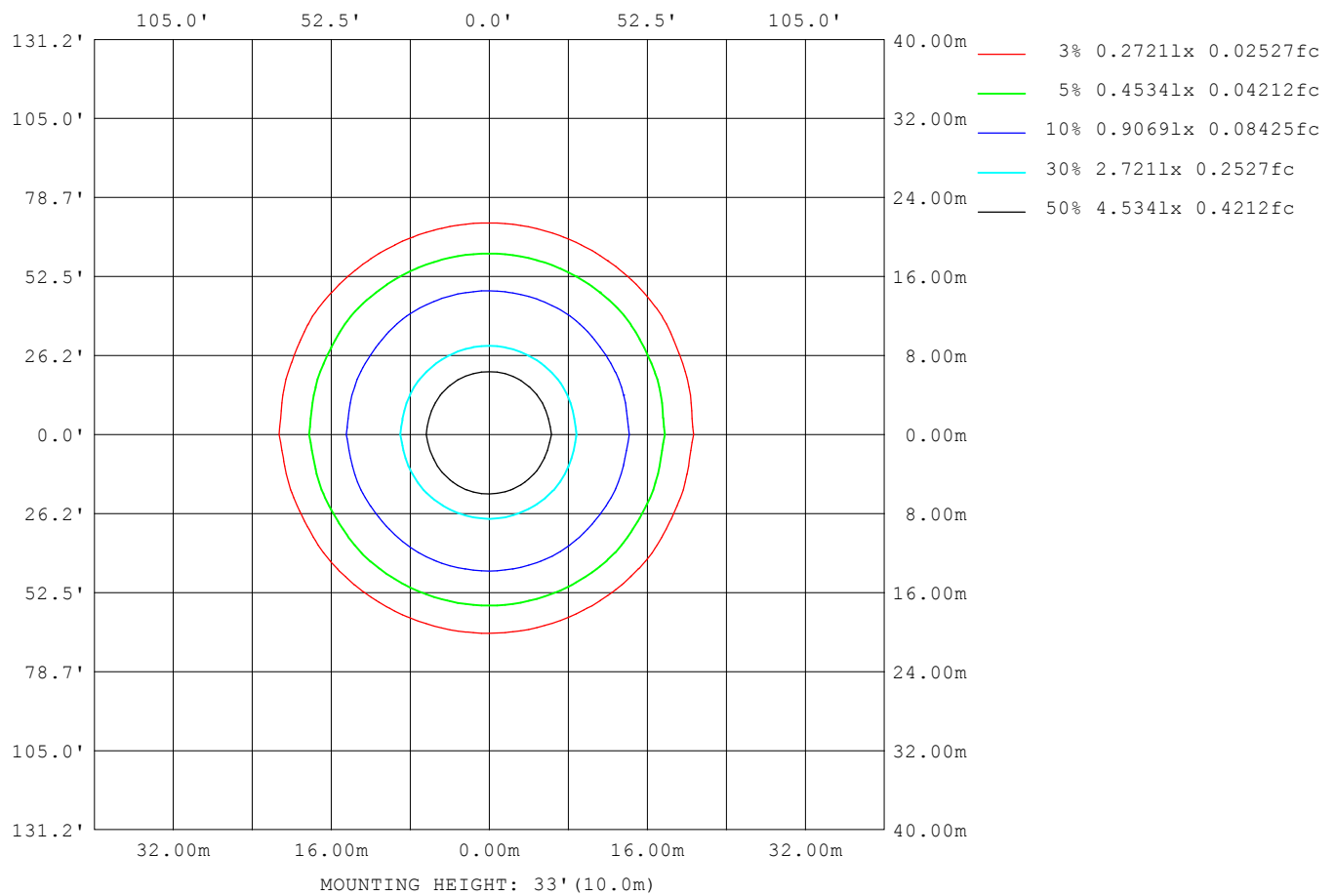


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2019-12-31

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2019-12-31

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```

LED Avg.L Report

Test:U:120.0V I:0.1635A P:19.56W PF:0.9966 Lamp Flux:712.387x3 lm		
NAME: BPLED14-19W-D10-U-50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

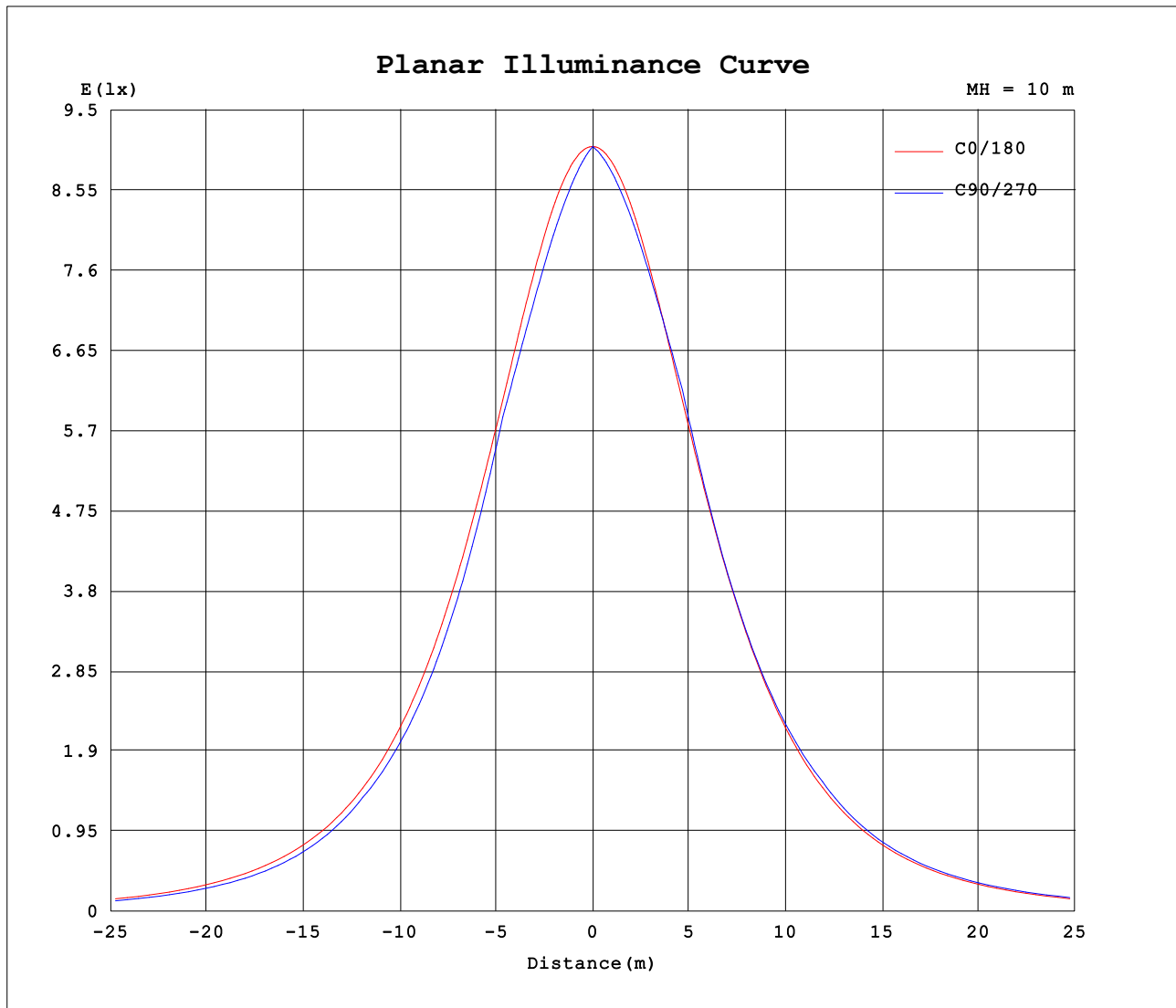
AvgL	cd/m2
L_0~180 (65) av	1217
L_0~180 (75) av	1073
L_0~180 (85) av	869
L_90~270 (65) av	1175
L_90~270 (75) av	1041
L_90~270 (85) av	1259
L_45 (65) av	1197
L_45 (75) av	1070
L_45 (85) av	1127

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
 Humidity:50%
 Test Distance:8.600m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2019-12-31

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity: 50%
Test Distance: 8.600m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2019-12-31

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--3

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2019-12-31

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--4

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2019-12-31

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Humidity:50%
Test Distance:8.600m [K=1.0000]
Remarks:

```