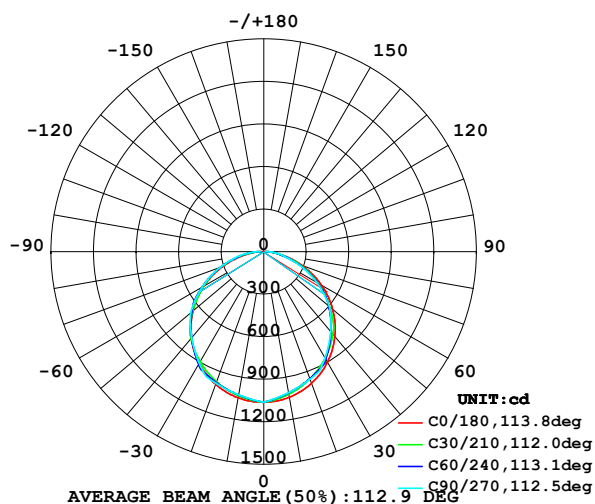


LUMINAIRE PHOTOMETRIC TEST REPORT

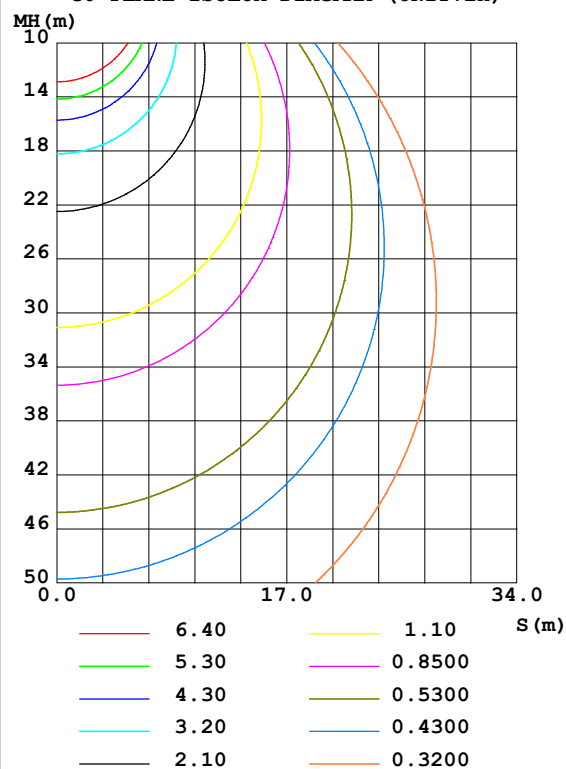
Test:U:120.0V I:0.1930A P:23.11W PF:0.9973 Lamp Flux:429.371x6 lm		
NAME: BPLED-22-24-D10-U-50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.92 lm/W			
MODEL		I _{max} (cd)	1063	S/MH (C0/180)	1.27
NOMINAL POWER(W)	24	LOR(%)	118.3	S/MH (C90/270)	1.27
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	3048.3	η UP,DN(C0-180)	0.0,56.9
NOMINAL FLUX(lm)	429.371	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,61.5
LAMPS INSIDE	6	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	η down (%)	118.3	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: 2019-08-26

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:

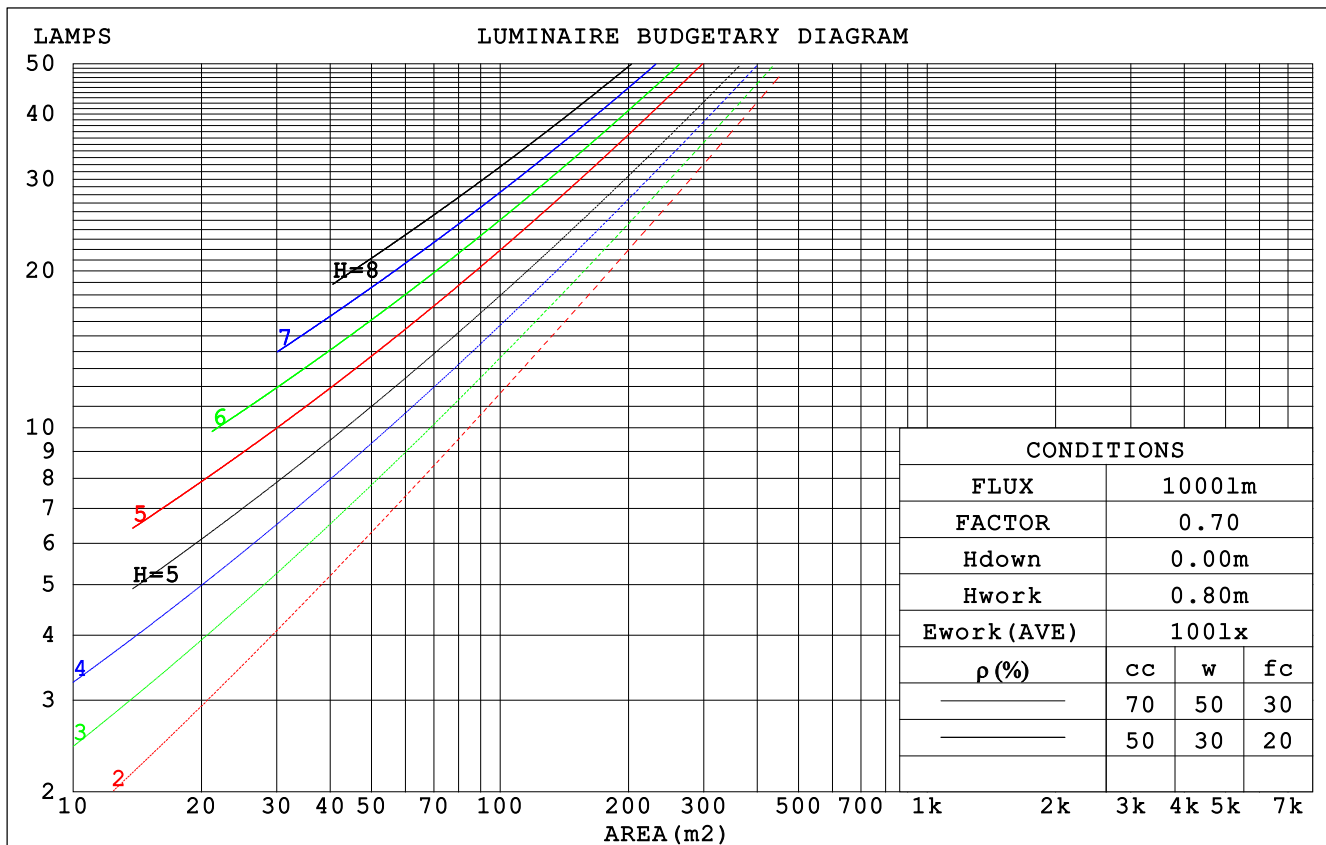
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
5	1057	1041	1036	1042	1059	1048	1044	1047	0- 5	25.15	25.15	0.83,0.98
10	1043	1015	1009	1017	1047	1029	1025	1026	5- 10	74.03	99.18	3.25,3.85
15	1020	985.1	983.0	988.4	1026	1005	1007	1002	10- 15	120.1	219.2	7.19,8.51
20	988.0	951.5	956.4	955.6	995.4	977.9	988.0	973.6	15- 20	162.3	381.5	12.5,14.8
25	948.0	914.5	929.9	919.3	957.0	946.9	969.4	941.9	20- 25	200.0	581.6	19.1,22.6
30	899.8	874.6	865.0	879.5	911.0	912.7	910.3	907.2	25- 30	231.4	813.0	26.7,31.6
35	843.5	822.6	800.0	828.2	857.1	866.0	851.2	859.9	30- 35	253.7	1067	35,41.4
40	780.6	748.4	735.0	754.4	795.7	796.4	792.1	789.5	35- 40	267.4	1334	43.8,51.8
45	710.9	672.9	670.0	679.6	727.5	725.1	733.0	717.4	40- 45	272.6	1607	52.7,62.4
50	635.6	596.9	605.1	604.1	653.0	653.4	674.0	645.0	45- 50	269.6	1876	61.6,72.8
55	554.3	521.1	517.7	528.5	572.8	581.6	587.6	572.6	50- 55	257.9	2134	70,82.8
60	468.5	443.8	430.4	451.2	487.5	507.4	501.2	498.2	55- 60	236.2	2370	77.8,92
65	379.5	354.2	343.0	360.6	398.6	415.2	414.8	406.7	60- 65	206.7	2577	84.5,100
70	289.5	267.2	255.7	272.3	307.9	325.2	328.4	318.0	65- 70	171.0	2748	90.2,107
75	201.6	182.9	168.3	186.4	217.9	237.7	242.0	231.8	70- 75	131.0	2879	94.5,112
80	120.8	105.8	116.5	107.5	134.8	154.8	170.0	150.5	75- 80	90.66	2970	97.4,115
85	51.36	59.02	64.64	59.80	62.70	87.65	97.98	85.32	80- 85	54.96	3025	99.2,117
90	8.255	12.95	12.80	12.80	13.35	21.40	25.97	21.12	85- 90	23.44	3048	100,118
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:2019-08-26

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

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Coefficients of Utilization(CU)												
0.0	1.41	1.41	1.41	1.38	1.38	1.38	1.31	1.31	1.31	1.26	1.26	1.26	1.21	1.21	1.21	1.18
1.0	1.22	1.17	1.12	1.20	1.15	1.11	1.15	1.11	1.07	1.10	1.07	1.04	1.06	1.03	1.01	.98
2.0	1.06	.98	.91	1.04	.96	.90	.90	.93	.88	.96	.91	.86	.92	.88	.84	.81
3.0	.93	.83	.76	.91	.82	.75	.88	.80	.73	.84	.78	.72	.81	.76	.71	.68
4.0	.82	.72	.64	.81	.71	.63	.78	.69	.62	.75	.68	.62	.73	.66	.61	.58
5.0	.74	.63	.55	.72	.62	.55	.70	.61	.54	.67	.59	.53	.65	.58	.53	.50
6.0	.66	.55	.48	.65	.55	.48	.63	.54	.47	.61	.53	.47	.59	.52	.46	.44
7.0	.60	.49	.42	.59	.49	.42	.57	.48	.42	.55	.47	.41	.54	.47	.41	.39
8.0	.55	.45	.38	.54	.44	.37	.52	.43	.37	.51	.43	.37	.49	.42	.37	.34
9.0	.50	.40	.34	.49	.40	.34	.48	.39	.33	.47	.39	.33	.46	.38	.33	.31
10.0	.46	.37	.31	.46	.37	.30	.44	.36	.30	.43	.36	.30	.42	.35	.30	.28



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2019-08-26

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	.377	.214	.068	.369	.210	.067	.353	.203	.065	.339	.195	.063	.325	.188	.061		
2.0	.351	.193	.059	.344	.189	.058	.330	.184	.057	.317	.178	.056	.305	.173	.054		
3.0	.324	.172	.052	.317	.170	.051	.305	.165	.050	.294	.161	.049	.283	.157	.048		
4.0	.298	.155	.046	.292	.153	.045	.281	.149	.045	.271	.146	.044	.262	.142	.043		
5.0	.275	.140	.041	.270	.139	.040	.260	.135	.040	.251	.133	.039	.243	.130	.039		
6.0	.255	.128	.037	.250	.126	.036	.242	.124	.036	.233	.121	.036	.226	.119	.035		
7.0	.237	.117	.033	.233	.116	.033	.225	.114	.033	.218	.112	.033	.211	.110	.032		
8.0	.221	.108	.030	.217	.107	.030	.211	.105	.030	.204	.103	.030	.198	.102	.030		
9.0	.207	.100	.028	.204	.099	.028	.198	.098	.028	.192	.096	.028	.186	.095	.027		
10.0	.195	.093	.026	.192	.093	.026	.186	.091	.026	.181	.090	.026	.176	.088	.025		

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	.225	.225	.225	.193	.193	.193	.131	.131	.131	.076	.076	.076	.024	.024	.024	
1.0	.214	.185	.158	.183	.158	.136	.125	.109	.094	.072	.063	.055	.023	.020	.018	
2.0	.205	.156	.115	.175	.134	.100	.120	.093	.069	.069	.054	.041	.022	.017	.013	
3.0	.195	.135	.087	.168	.117	.076	.115	.081	.053	.066	.047	.031	.021	.015	.010	
4.0	.186	.120	.069	.160	.103	.060	.110	.072	.042	.064	.042	.025	.020	.014	.008	
5.0	.178	.107	.055	.152	.093	.048	.105	.065	.034	.061	.038	.020	.020	.012	.007	
6.0	.169	.097	.046	.145	.084	.040	.100	.059	.028	.058	.035	.017	.019	.011	.006	
7.0	.161	.089	.039	.138	.077	.034	.096	.054	.024	.056	.032	.014	.018	.010	.005	
8.0	.153	.082	.034	.132	.071	.029	.091	.050	.021	.053	.030	.012	.017	.010	.004	
9.0	.146	.077	.030	.126	.066	.026	.087	.047	.018	.051	.028	.011	.016	.009	.004	
10.0	.139	.071	.026	.120	.062	.023	.083	.044	.016	.049	.026	.010	.016	.008	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2019-08-26

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	18.4	19.9	18.6	20.1	20.3	18.2	19.7	18.4	19.9	20.1
3H	19.9	21.3	20.2	21.5	21.8	19.6	21.0	19.9	21.2	21.4
4H	20.5	21.8	20.8	22.1	22.3	20.1	21.4	20.4	21.7	21.9
6H	20.9	22.2	21.2	22.4	22.7	20.5	21.8	20.8	22.0	22.3
8H	21.0	22.2	21.4	22.5	22.8	20.7	21.9	21.0	22.2	22.5
12H	21.1	22.3	21.4	22.6	22.9	20.8	22.0	21.2	22.3	22.6
4H 2H	18.9	20.3	19.3	20.5	20.8	18.8	20.1	19.1	20.4	20.6
3H	20.6	21.8	21.0	22.1	22.4	20.3	21.5	20.7	21.8	22.1
4H	21.3	22.4	21.7	22.7	23.1	20.9	22.0	21.3	22.4	22.7
6H	21.9	22.8	22.3	23.2	23.6	21.5	22.5	21.9	22.8	23.2
8H	22.0	23.0	22.5	23.3	23.7	21.8	22.7	22.2	23.0	23.4
12H	22.2	23.0	22.6	23.4	23.8	22.0	22.8	22.4	23.2	23.6
8H 4H	21.5	22.4	22.0	22.8	23.2	21.2	22.1	21.6	22.5	22.9
6H	22.2	23.0	22.7	23.4	23.8	21.9	22.7	22.4	23.1	23.5
8H	22.5	23.2	22.9	23.6	24.0	22.3	22.9	22.7	23.4	23.8
12H	22.7	23.2	23.1	23.7	24.2	22.6	23.2	23.1	23.6	24.1
12H 4H	21.6	22.4	22.0	22.8	23.2	21.2	22.0	21.6	22.4	22.8
6H	22.3	23.0	22.7	23.4	23.8	22.0	22.6	22.4	23.1	23.5
8H	22.6	23.2	23.1	23.6	24.1	22.4	23.0	22.9	23.4	23.9
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 2576 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.3)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2019-08-26

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) $k(RI) \times RCR = 5$									
$k = 0.60$	67	54	45	67	53	45	65	53	45	37
0.80	79	65	57	78	65	56	76	64	56	48
1.00	89	76	67	88	75	67	85	77	66	58
1.25	98	85	76	96	84	76	93	83	75	66
1.50	104	92	83	102	91	83	98	89	81	72
2.00	112	101	94	110	100	93	105	97	91	82
2.50	116	107	100	114	105	99	109	102	96	87
3.00	120	112	105	118	110	104	113	107	102	91
4.00	125	118	113	122	116	111	117	112	108	97
5.00	128	122	117	125	120	115	120	116	112	101
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: 2019-08-26

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):

1606.7 lm

%lum = 52.7%

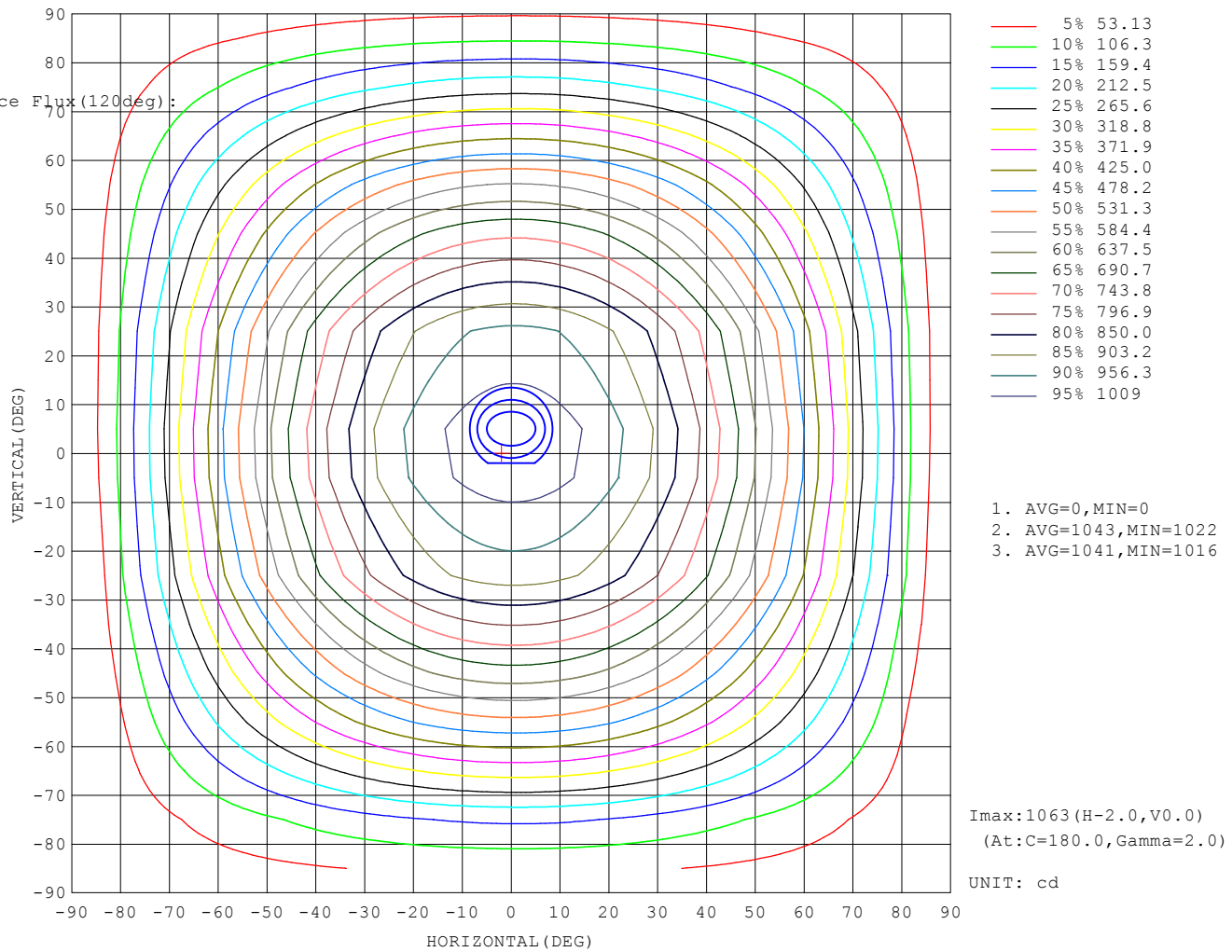
%lamp = 62.4%

Conical surface Flux(120deg):

2370.5 lm

%lum = 77.8%

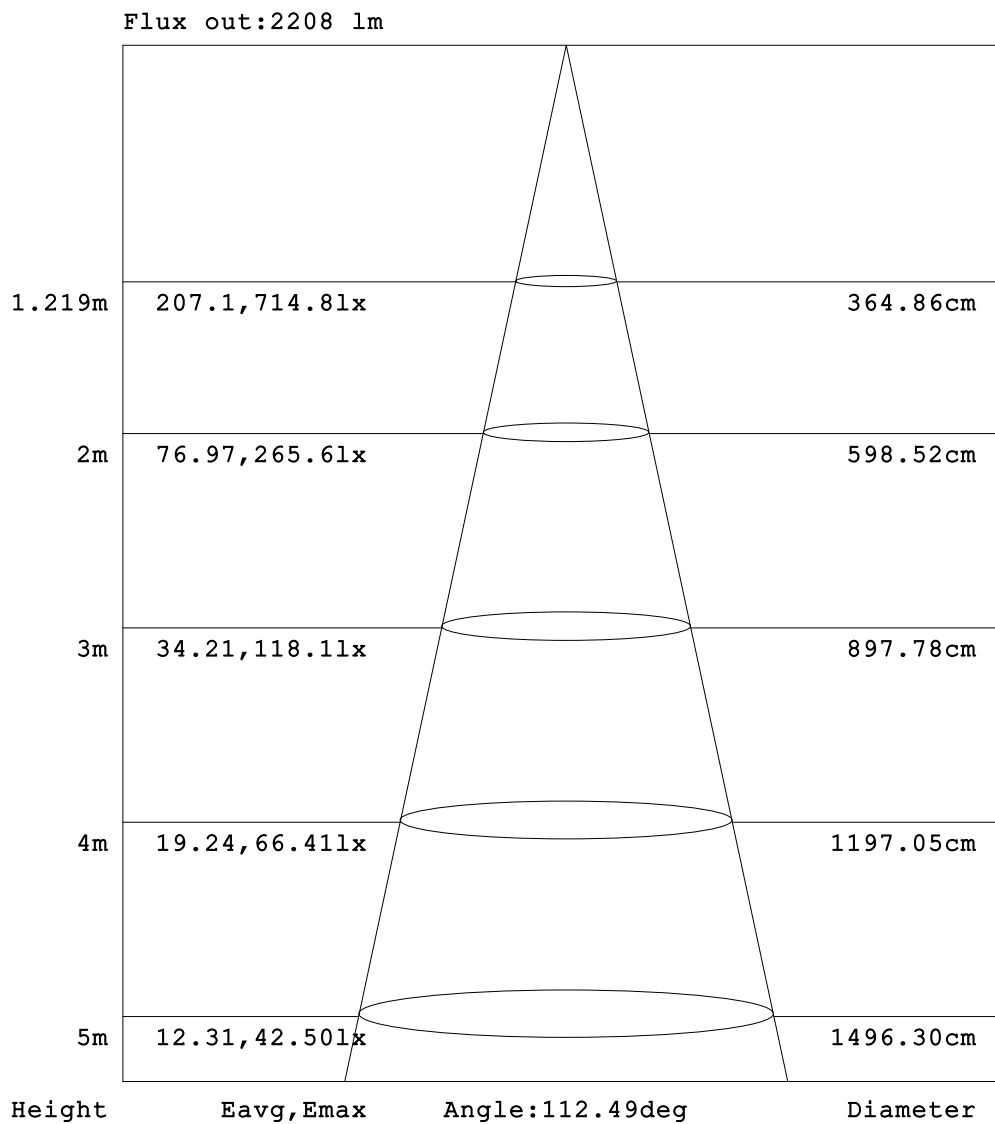
%lamp = 92.0%



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2019-08-26

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

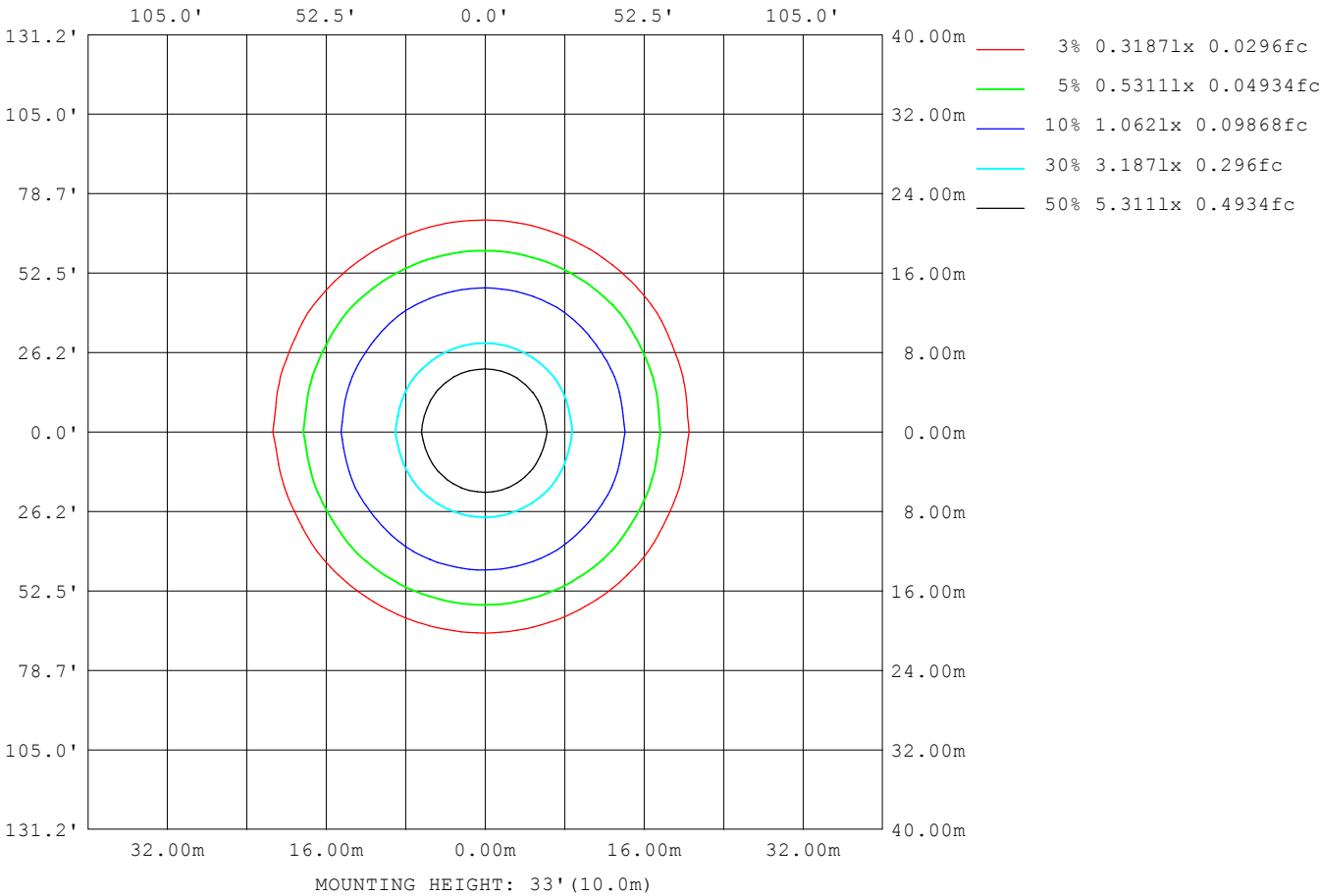


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2019-08-26

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	γ Range: 0 - 90DEG
C Interval: 5.0DEG	γ Interval: 0.5DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.290
Temperature:25DEG	Humidity:50%
Operators:	Test Distance:8.600m [K=1.0000]
Test Date:2019-08-26	Remarks:

LED Avg.L Report

Test:U:120.0V I:0.1930A P:23.11W PF:0.9973 Lamp Flux:429.371x6 lm		
NAME: BPLED-22-24-D10-U-50	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

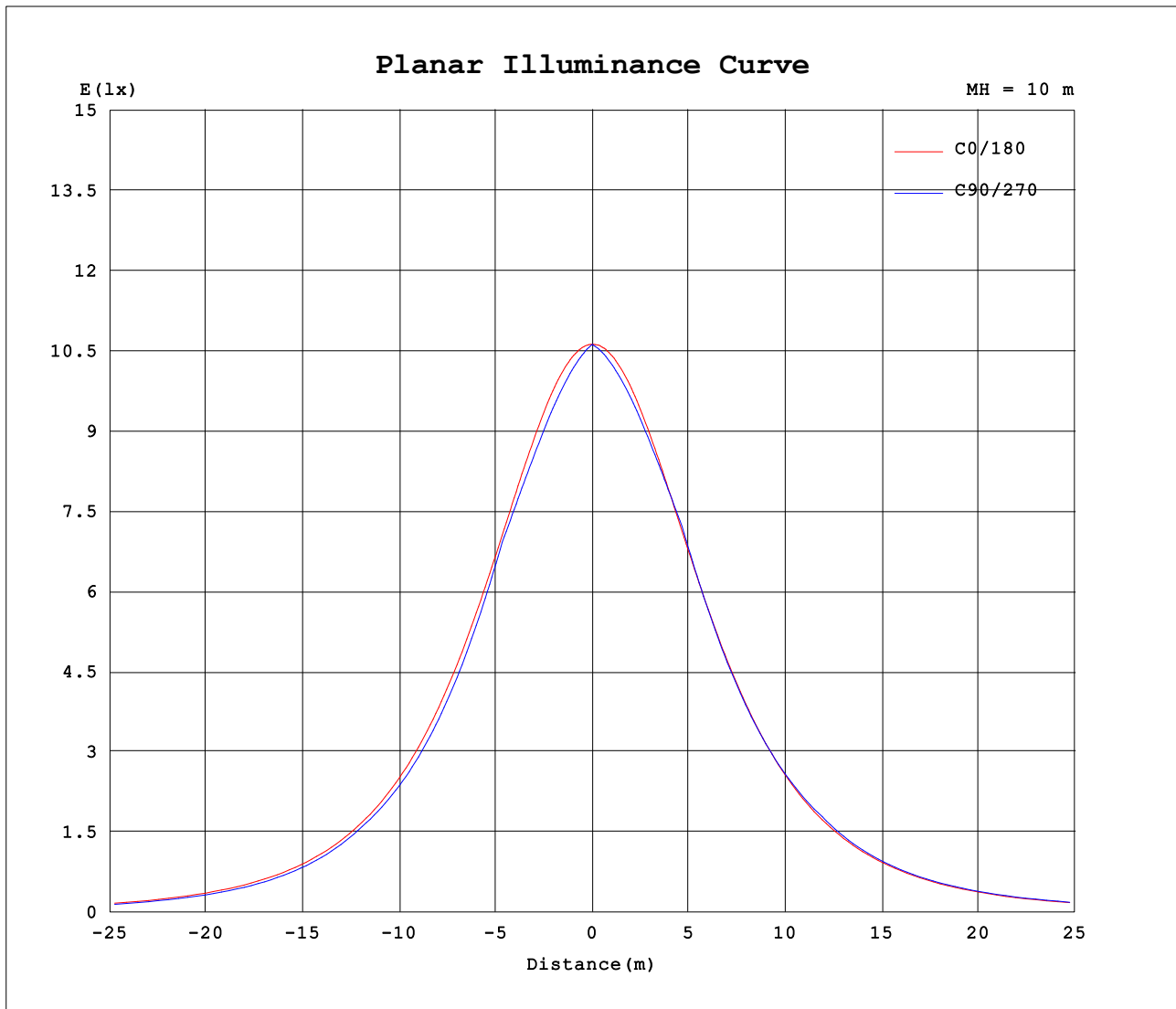
AvgL	cd/m2
L_0~180 (65) av	5022
L_0~180 (75) av	4422
L_0~180 (85) av	3570
L_90~270 (65) av	4891
L_90~270 (75) av	4324
L_90~270 (85) av	5090
L_45 (65) av	4959
L_45 (75) av	4420
L_45 (85) av	4566

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2019-08-26

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: 2019-08-26

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--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2019-08-26

```

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: 2019-08-26

```

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: 2019-08-26

```

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: 2019-08-26

```

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:

```