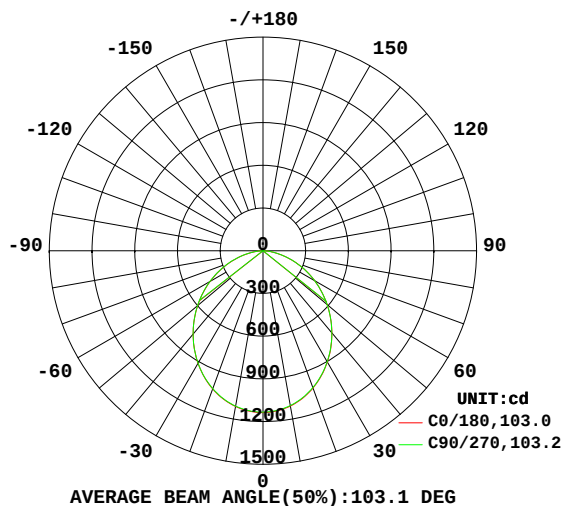


LUMINAIRE PHOTOMETRIC TEST REPORT

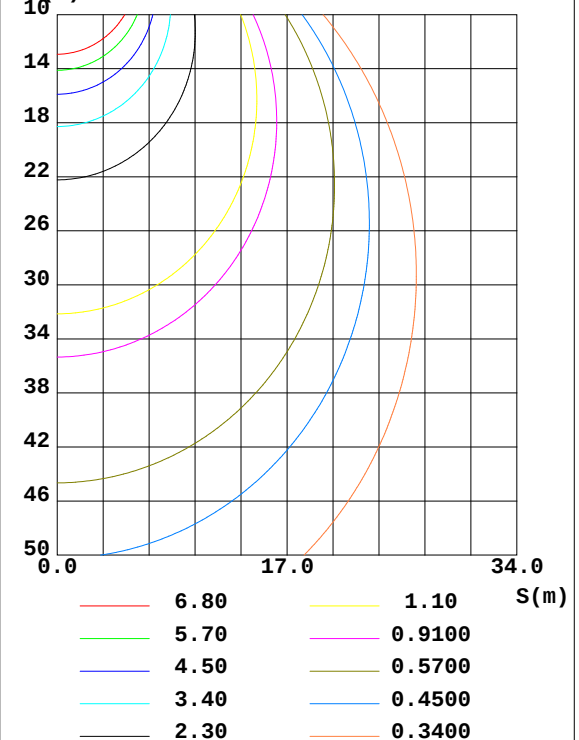
Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.19 lm/W			
MODEL	2835 144 5700K	I _{max} (cd)	1137	S/MH(C0/180)	1.20
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.20
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	2909.7	η UP, DN(C0-180)	0.0, 49.6
NOMINAL FLUX(lm)	2909.69	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	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: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-03-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

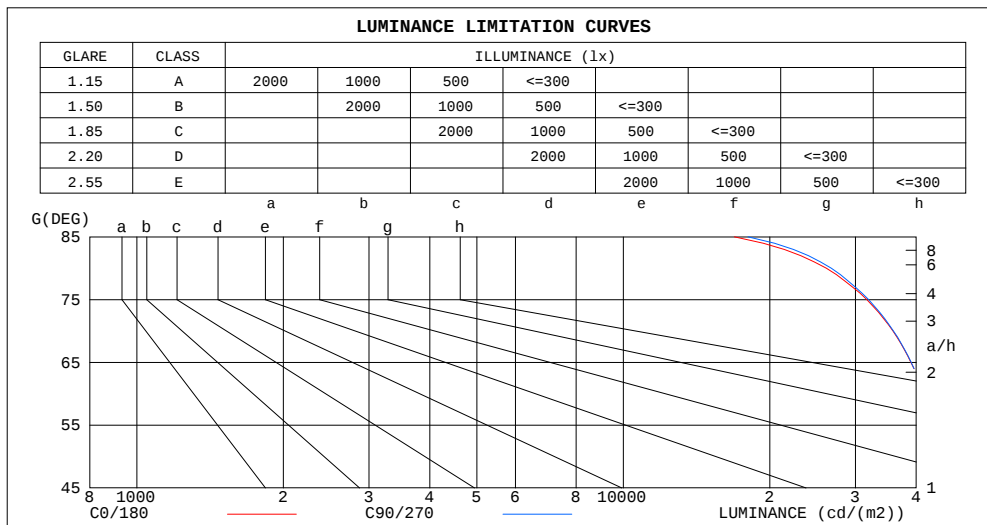
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1107	1105	1104	1104	1111	1110	1108	1106	0- 10	106.9	106.9	3.68, 3.68
20	1026	1024	1023	1024	1033	1033	1031	1028	10- 20	302.4	409.4	14.1, 14.1
30	903.6	902.1	901.7	902.6	912.8	914.4	912.2	907.2	20- 30	447.3	856.7	29.4, 29.4
40	753.1	752.2	752.1	752.9	763.4	766.0	764.0	758.3	30- 40	521.9	1379	47.4, 47.4
50	588.4	587.9	588.1	588.7	598.9	601.8	600.3	594.3	40- 50	521.9	1901	65.3, 65.3
60	417.8	417.3	417.8	418.6	427.7	430.9	429.5	424.1	50- 60	454.6	2355	80.9, 80.9
70	246.4	246.1	247.0	247.7	255.9	258.8	257.9	253.3	60- 70	333.3	2688	92.4, 92.4
80	91.28	91.67	93.44	93.75	98.12	100.7	100.3	96.59	70- 80	180.4	2869	98.6, 98.6
90	1.722	1.733	1.737	1.718	1.058	1.050	1.065	1.069	80- 90	40.89	2910	100, 100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 γ Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	16918	18052
80	26141	26758
75	31652	31926
70	35819	35916
65	39005	39044
60	41555	41555
55	43642	43642
50	45519	45496
45	47252	47205

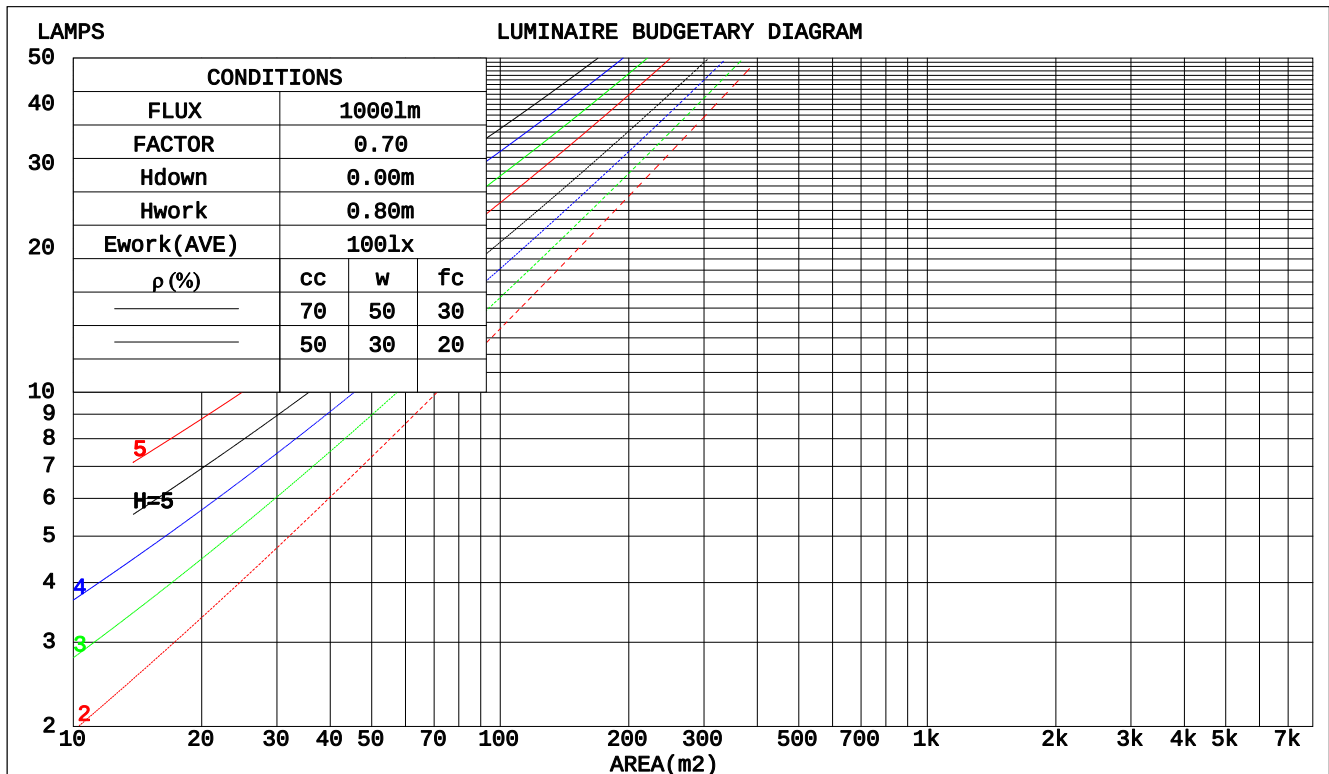
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-03-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:

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	1.19	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	1.05	1.00	.97	1.02	.99	.95	.98	.95	.92	.94	.92	.89	.91	.89	.87	.85
2.0	.92	.85	.79	.90	.84	.78	.86	.81	.77	.83	.79	.75	.80	.76	.73	.71
3.0	.81	.73	.66	.79	.72	.66	.76	.70	.65	.73	.68	.63	.71	.66	.62	.60
4.0	.72	.63	.56	.70	.62	.56	.68	.61	.55	.65	.59	.55	.63	.58	.54	.52
5.0	.64	.55	.49	.63	.55	.49	.61	.54	.48	.59	.53	.47	.57	.51	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.53	.44	.38	.52	.44	.38	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.40	.34	.47	.39	.34	.46	.39	.34	.45	.38	.33	.44	.38	.33	.31
9.0	.44	.36	.31	.44	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.27	.37	.32	.27	.26



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm					
NAME: DL30096-BKTC30S01S			TYPE:		WEIGHT:
SPEC.: black RA80 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 160mm		Shielding Angle:

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.297	.169	.053	.290	.165	.052	.276	.159	.051	.264	.152	.049	.253	.147	.047	
2.0	.282	.154	.047	.275	.152	.047	.264	.147	.046	.253	.142	.044	.243	.138	.043	
3.0	.262	.139	.042	.256	.137	.041	.246	.133	.041	.237	.130	.040	.228	.126	.039	
4.0	.243	.126	.037	.238	.124	.037	.229	.121	.036	.220	.118	.036	.212	.115	.035	
5.0	.225	.115	.033	.221	.113	.033	.213	.111	.033	.205	.108	.032	.198	.106	.032	
6.0	.209	.105	.030	.205	.104	.030	.198	.102	.030	.191	.099	.029	.185	.097	.029	
7.0	.195	.096	.027	.192	.095	.027	.185	.094	.027	.179	.092	.027	.174	.090	.027	
8.0	.182	.089	.025	.179	.088	.025	.174	.087	.025	.168	.085	.025	.163	.084	.024	
9.0	.171	.083	.023	.168	.082	.023	.163	.081	.023	.158	.079	.023	.154	.078	.023	
10.0	.161	.077	.021	.159	.077	.021	.154	.075	.021	.150	.074	.021	.146	.073	.021	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.179	.156	.135	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.059	.133	.087	.052	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.026	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm											
NAME: DL30096-BKTC30S01S					TYPE:			WEIGHT:			
SPEC.: black RA80 3000K+5700K					DIM.:			SERIAL No.:			
MFR.:					SUR.: 160mm			Shielding 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	22.1	23.6	22.4	23.8	24.0	22.1	23.6	22.4	23.8	24.0	
	3H	23.5	24.9	23.8	25.1	25.3	23.5	24.9	23.8	25.1	25.3
	4H	24.0	25.3	24.3	25.5	25.8	24.0	25.3	24.3	25.6	25.8
	6H	24.3	25.5	24.6	25.8	26.1	24.3	25.6	24.7	25.8	26.1
	8H	24.4	25.6	24.7	25.8	26.1	24.4	25.6	24.8	25.9	26.2
	12H	24.4	25.5	24.7	25.8	26.1	24.4	25.6	24.8	25.9	26.2
4H	2H	22.7	24.0	23.0	24.3	24.5	22.7	24.0	23.0	24.3	24.5
	3H	24.2	25.4	24.6	25.7	26.0	24.2	25.4	24.6	25.7	26.0
	4H	24.8	25.9	25.2	26.2	26.5	24.9	25.9	25.2	26.2	26.6
	6H	25.3	26.2	25.7	26.5	26.9	25.3	26.2	25.7	26.6	26.9
	8H	25.4	26.2	25.8	26.6	27.0	25.4	26.3	25.8	26.6	27.0
	12H	25.4	26.2	25.9	26.6	27.0	25.5	26.3	25.9	26.6	27.1
8H	4H	25.1	25.9	25.5	26.3	26.7	25.1	25.9	25.5	26.3	26.7
	6H	25.6	26.3	26.0	26.7	27.1	25.6	26.3	26.1	26.7	27.2
	8H	25.8	26.4	26.2	26.8	27.3	25.8	26.5	26.3	26.9	27.3
	12H	25.9	26.4	26.4	26.9	27.3	25.9	26.5	26.4	26.9	27.4
12H	4H	25.1	25.8	25.5	26.2	26.6	25.1	25.9	25.5	26.2	26.6
	6H	25.6	26.3	26.1	26.7	27.1	25.7	26.3	26.1	26.7	27.2
	8H	25.8	26.4	26.3	26.8	27.3	25.9	26.4	26.4	26.9	27.3
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 2910 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 3.7$)
Area: 0.02011 m²

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:

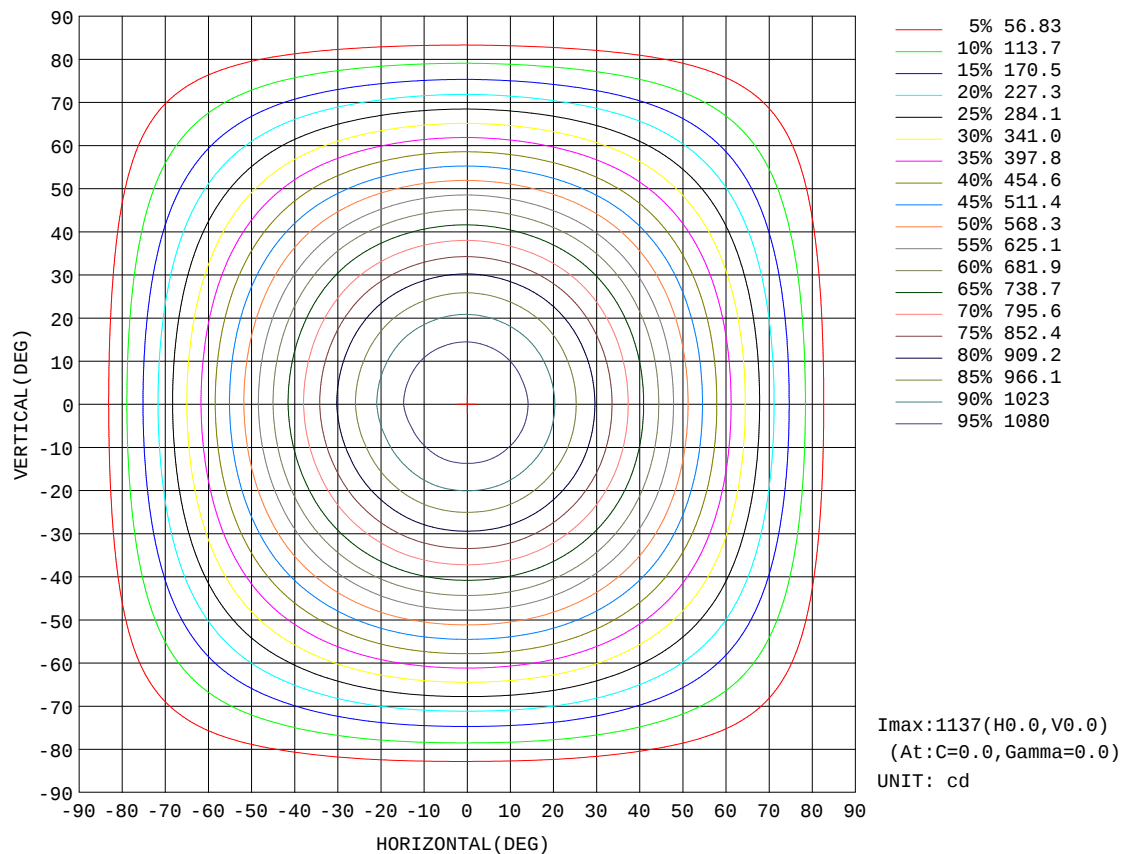
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	48	41	58	48	41	57	47	41	34
0.80	69	58	51	68	57	51	66	57	50	43
1.00	77	67	60	76	66	59	74	67	59	52
1.25	84	74	67	83	74	67	80	72	66	59
1.50	89	80	73	88	79	73	85	77	72	64
2.00	96	88	82	94	87	81	91	84	79	72
2.50	100	92	87	98	91	86	94	88	84	76
3.00	103	96	91	101	95	90	97	92	88	80
4.00	107	101	97	105	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:



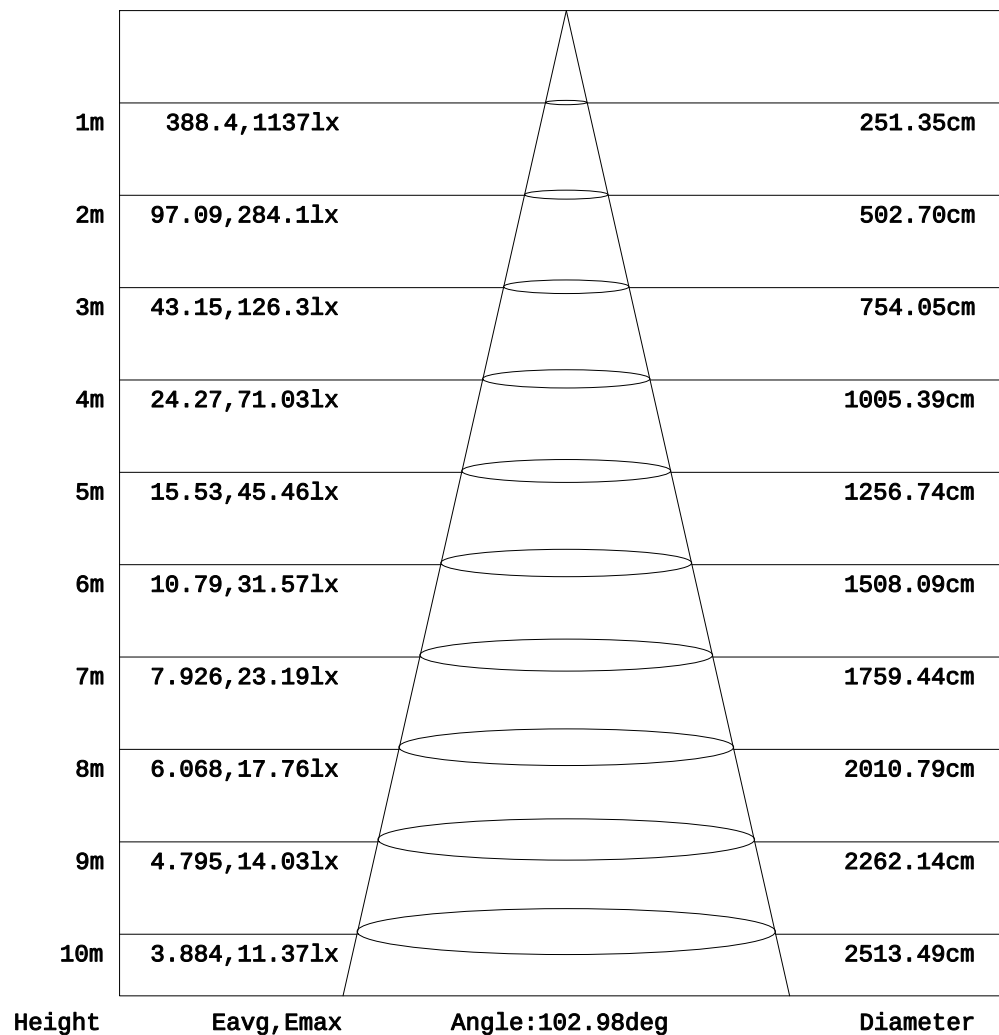
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-03-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:

Flux out:1999 lm



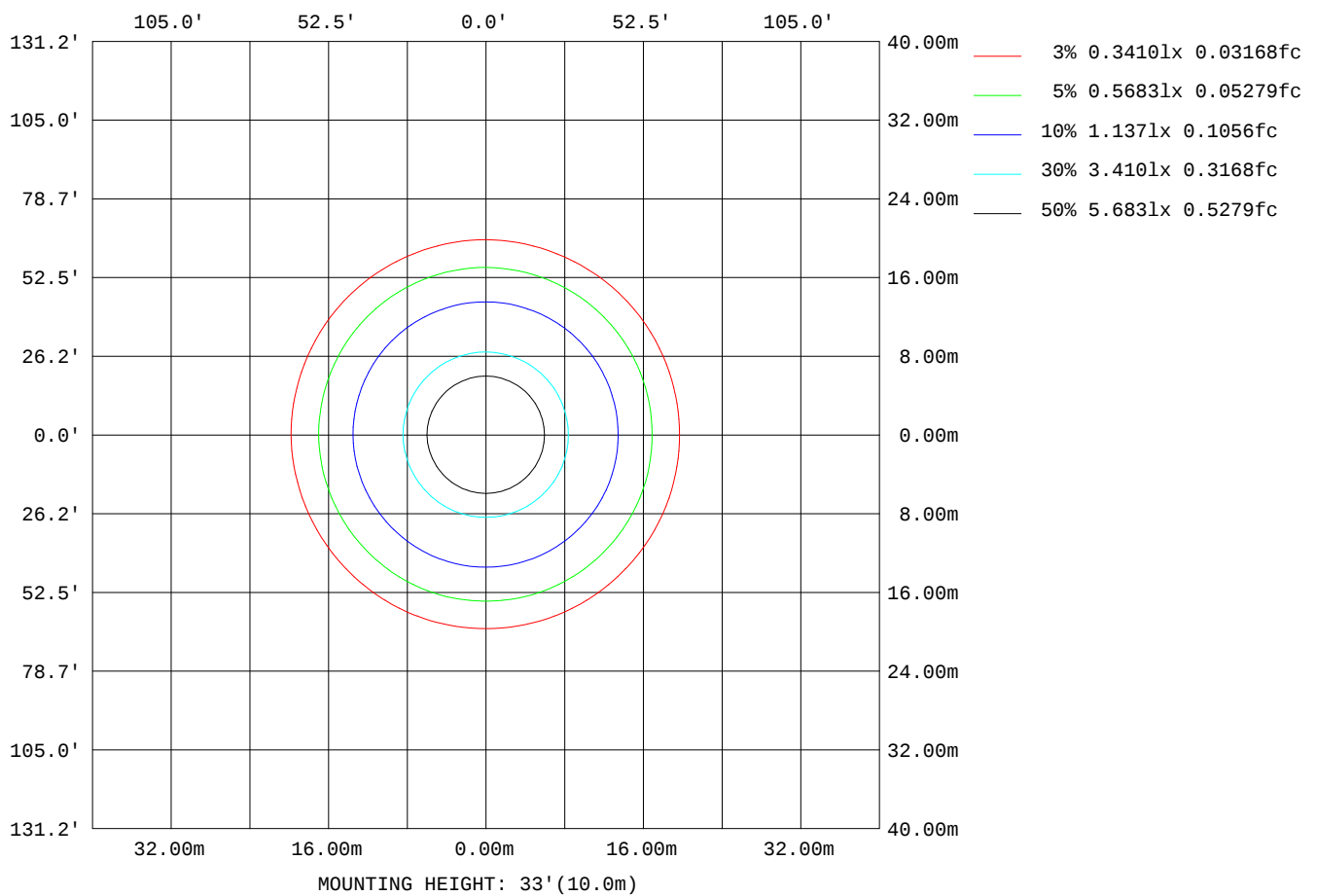
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-03-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.18V I:0.1242A P:27.662W PF:0.9673 Freq:49.99Hz Lamp Flux:2909.69x1 lm		
NAME: DL30096-BKTC30S01S	TYPE:	WEIGHT:
SPEC.: black RA80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 160mm	Shielding Angle:

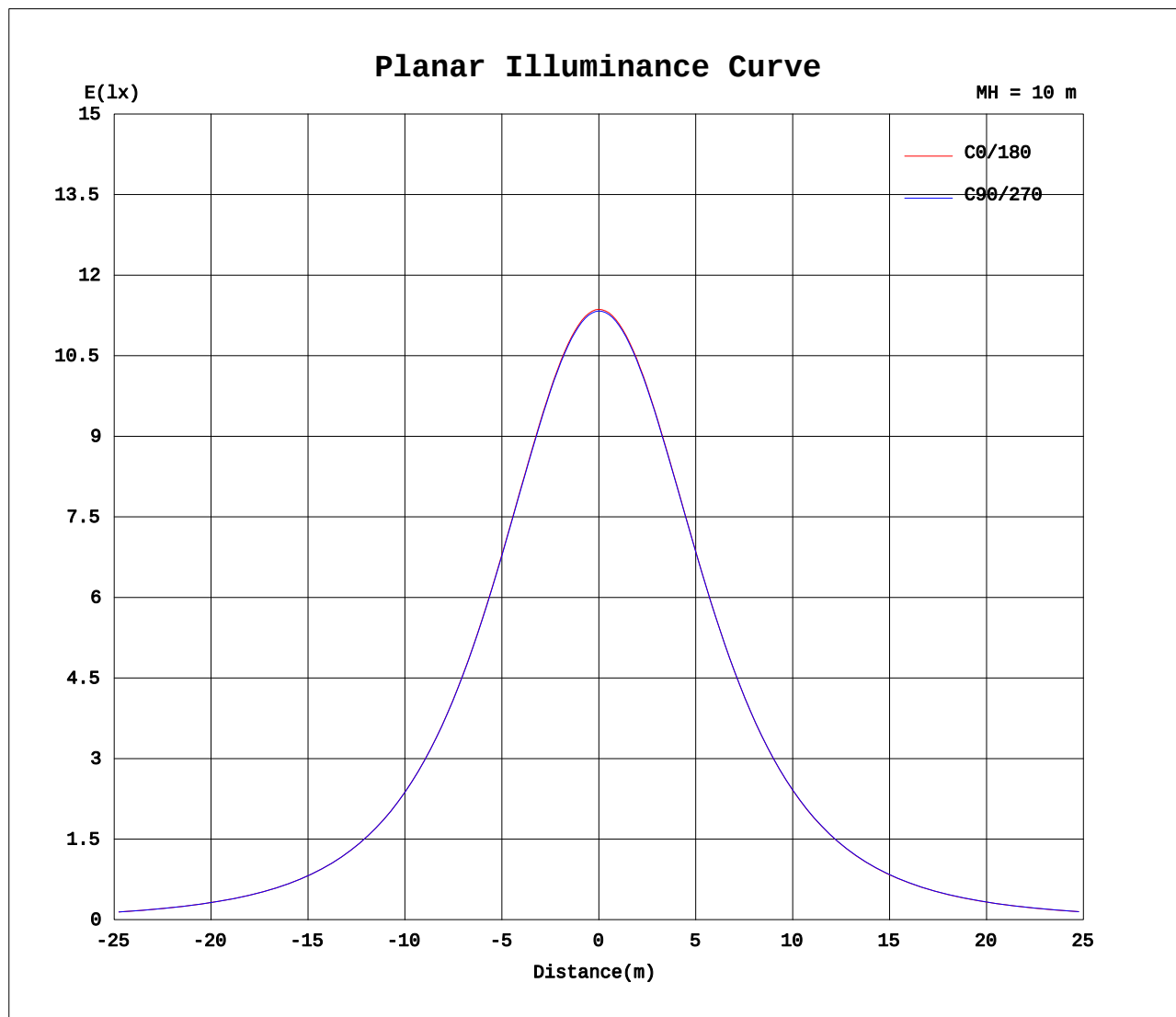
AvgL	cd/m2
L_0~180(65)av	39575
L_0~180(75)av	32478
L_0~180(85)av	18373
L_90~270(65)av	39709
L_90~270(75)av	32835
L_90~270(85)av	19375
L_45(65)av	39596
L_45(75)av	32616
L_45(85)av	18907

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-03-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-03-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

```

Range: 0 - 90DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

```