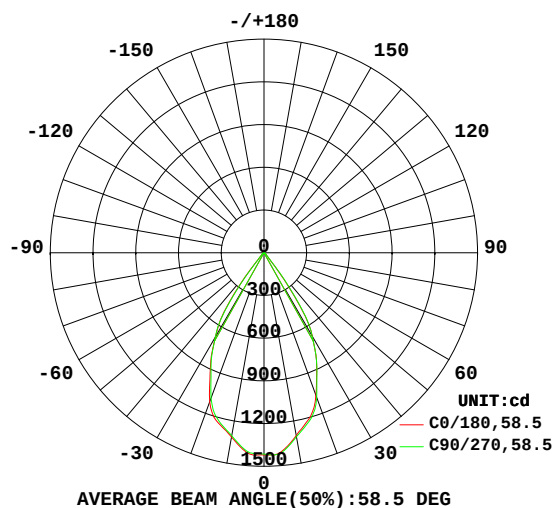


LUMINAIRE PHOTOMETRIC TEST REPORT

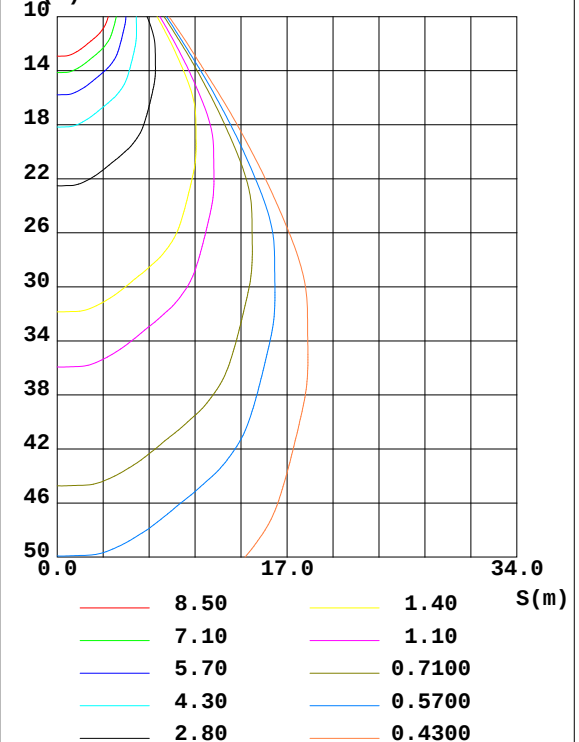
Test:U:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 89.70 lm/W			
MODEL	TB15111204 5700K	I _{max} (cd)	1426	S/MH(C0/180)	0.89
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.89
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1179.7	η UP, DN(C0-180)	0.0, 49.7
NOMINAL FLUX(lm)	1179.69	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	0.95

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: 2023-10-20

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:

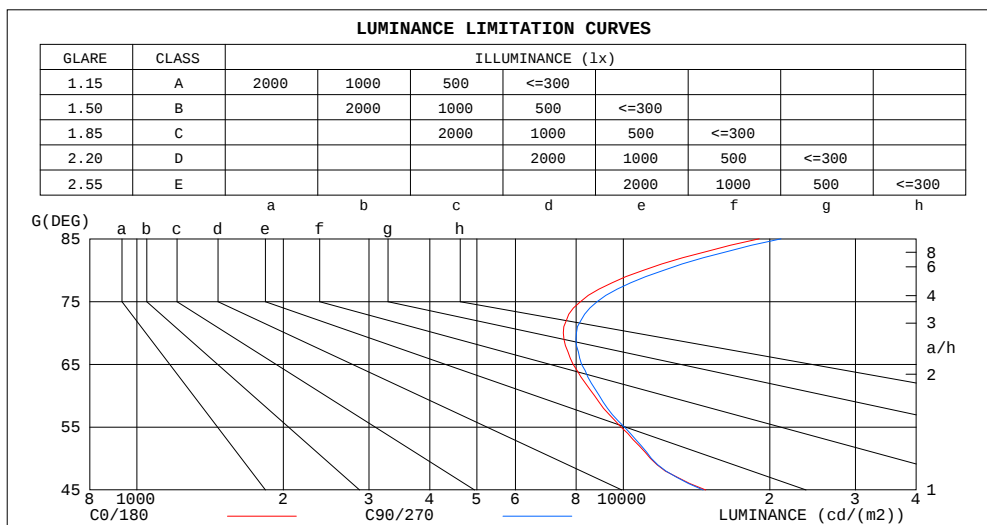
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1304	1311	1313	1304	1314	1316	1306	1306	0- 10	130.6	130.6	11.1, 11.1
20	1068	1070	1083	1089	1114	1103	1088	1075	10- 20	341.4	472.0	40, 40
30	680.7	684.4	677.1	678.7	683.3	678.2	683.7	684.3	20- 30	401.9	873.9	74.1, 74.1
40	76.33	75.30	81.05	101.8	99.50	93.04	90.98	88.78	30- 40	241.4	1115	94.5, 94.5
50	20.67	20.74	20.77	20.71	20.89	20.88	20.83	20.79	40- 50	28.60	1144	97, 97
60	12.34	12.46	12.63	12.68	12.85	12.79	12.63	12.47	50- 60	14.64	1159	98.2, 98.2
70	7.285	7.493	7.755	7.979	8.123	8.030	7.744	7.454	60- 70	9.823	1168	99, 99
80	5.413	5.587	5.957	6.297	6.392	6.233	5.909	5.535	70- 80	6.951	1175	99.6, 99.6
90	0.0502	0.0502	0.0463	0.0425	0	0	0	0	80- 90	4.291	1180	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: 2023-10-20

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:

LUMINANCE LIMITATION CURVES

Test:U:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	19012	21093
80	11015	12122
75	8172	8842
70	7526	8012
65	7884	8207
60	8724	8926
55	9890	10052
50	11365	11416
45	14766	14588

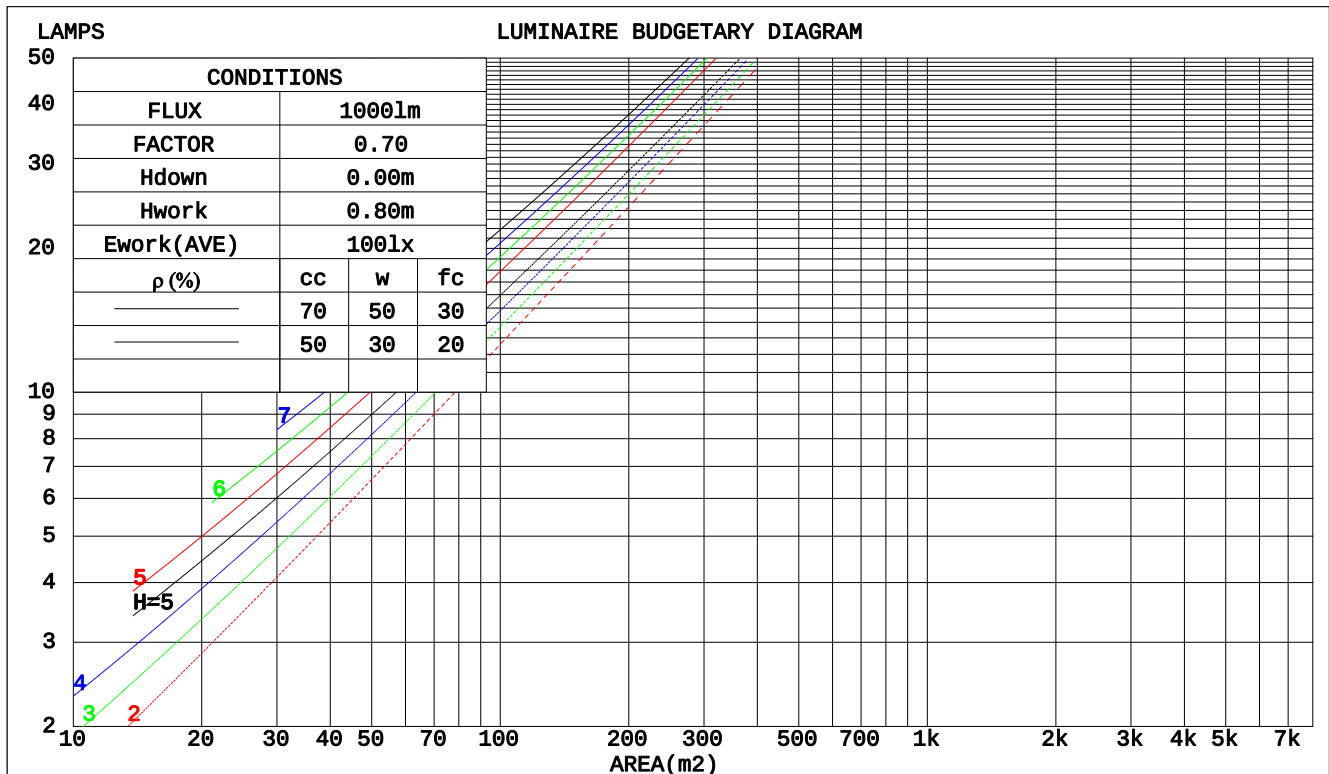
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	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	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.03	.99	.95	1.01	.98	.94	.98	.95	.92	.95	.93	.90	.92	.90	.88	.87
3.0	.96	.91	.87	.95	.90	.86	.92	.88	.85	.90	.86	.84	.87	.85	.82	.81
4.0	.90	.84	.80	.89	.84	.80	.87	.82	.79	.85	.81	.78	.83	.80	.77	.76
5.0	.84	.79	.74	.83	.78	.74	.82	.77	.73	.80	.76	.73	.78	.75	.72	.71
6.0	.79	.74	.69	.79	.73	.69	.77	.72	.69	.76	.71	.68	.74	.71	.68	.66
7.0	.75	.69	.65	.74	.69	.65	.73	.68	.64	.72	.67	.64	.71	.67	.64	.62
8.0	.71	.65	.61	.70	.64	.61	.69	.64	.60	.68	.63	.60	.67	.63	.60	.58
9.0	.67	.61	.57	.66	.61	.57	.65	.60	.57	.65	.60	.57	.64	.59	.56	.55
10.0	.63	.58	.54	.63	.57	.54	.62	.57	.54	.61	.57	.53	.61	.56	.53	.52



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm					
NAME: DL2082-WHTC15C01P			TYPE:		WEIGHT:
SPEC.: white R80 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 60mm		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	.182	.103	.033	.175	.100	.032	.162	.093	.030	.151	.087	.028	.140	.081	.026		
2.0	.172	.094	.029	.166	.092	.028	.156	.087	.027	.146	.082	.026	.137	.077	.024		
3.0	.163	.087	.026	.158	.085	.025	.149	.081	.025	.140	.077	.024	.133	.073	.023		
4.0	.154	.080	.024	.150	.079	.023	.142	.076	.023	.135	.073	.022	.128	.070	.021		
5.0	.147	.075	.022	.143	.073	.021	.136	.071	.021	.130	.069	.020	.124	.066	.020		
6.0	.140	.070	.020	.137	.069	.020	.131	.067	.019	.125	.065	.019	.120	.063	.019		
7.0	.133	.066	.019	.131	.065	.019	.125	.063	.018	.120	.062	.018	.116	.060	.018		
8.0	.128	.062	.018	.125	.062	.017	.120	.060	.017	.116	.059	.017	.112	.057	.017		
9.0	.122	.059	.017	.120	.059	.016	.116	.057	.016	.112	.056	.016	.108	.055	.016		
10.0	.117	.056	.016	.115	.056	.016	.112	.055	.015	.108	.054	.015	.105	.053	.015		

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	.171	.157	.145	.147	.135	.124	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.132	.113	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.123	.098	.078	.085	.068	.054	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.060	.107	.075	.052	.074	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.101	.068	.043	.070	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.111	.070	.042	.095	.061	.037	.066	.043	.026	.038	.025	.015	.012	.008	.005	
8.0	.105	.064	.036	.090	.056	.031	.063	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.100	.059	.031	.086	.051	.027	.060	.036	.019	.035	.021	.012	.011	.007	.004	
10.0	.095	.055	.027	.082	.047	.024	.057	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm											
NAME: DL2082-WHTC15C01P						TYPE:			WEIGHT:		
SPEC.: white R80 3000K+5700K						DIM.:			SERIAL No.:		
MFR.:						SUR.: 60mm			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	2H	20.5	21.4	20.7	21.6	21.8	20.5	21.5	20.8	21.7	21.8
	3H	20.4	21.3	20.7	21.5	21.7	20.5	21.4	20.8	21.6	21.8
	4H	20.4	21.2	20.7	21.5	21.7	20.5	21.3	20.8	21.5	21.8
	6H	20.5	21.2	20.8	21.5	21.7	20.6	21.3	20.9	21.6	21.8
	8H	20.5	21.3	20.8	21.5	21.8	20.6	21.4	21.0	21.6	21.9
	12H	20.6	21.3	21.0	21.6	21.9	20.8	21.5	21.1	21.8	22.0
4H	2H	20.3	21.1	20.6	21.3	21.5	20.3	21.2	20.6	21.4	21.6
	3H	20.3	21.0	20.6	21.3	21.5	20.4	21.1	20.7	21.3	21.6
	4H	20.3	21.0	20.7	21.3	21.6	20.4	21.1	20.8	21.4	21.7
	6H	20.5	21.0	20.8	21.4	21.7	20.6	21.1	20.9	21.5	21.8
	8H	20.6	21.1	21.0	21.5	21.8	20.7	21.3	21.1	21.6	22.0
	12H	20.8	21.3	21.2	21.7	22.0	21.0	21.5	21.4	21.8	22.2
8H	4H	20.3	20.8	20.7	21.1	21.5	20.4	20.9	20.7	21.2	21.6
	6H	20.5	20.9	20.9	21.3	21.7	20.6	21.1	21.1	21.5	21.9
	8H	20.7	21.1	21.2	21.5	22.0	20.9	21.3	21.3	21.7	22.1
	12H	21.1	21.4	21.6	21.9	22.3	21.3	21.6	21.8	22.1	22.6
12H	4H	20.2	20.7	20.7	21.1	21.5	20.3	20.8	20.7	21.2	21.6
	6H	20.5	20.9	21.0	21.3	21.8	20.6	21.0	21.1	21.4	21.9
	8H	20.8	21.1	21.3	21.6	22.1	21.0	21.3	21.4	21.7	22.2
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 3.2 / - 2.0					+ 3.1 / - 2.0					
1.5H	+ 5.4 / - 1.9					+ 5.3 / - 1.9					
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3					

CIE Pub.117, 1180 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.6)
Area: 0.00283 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:

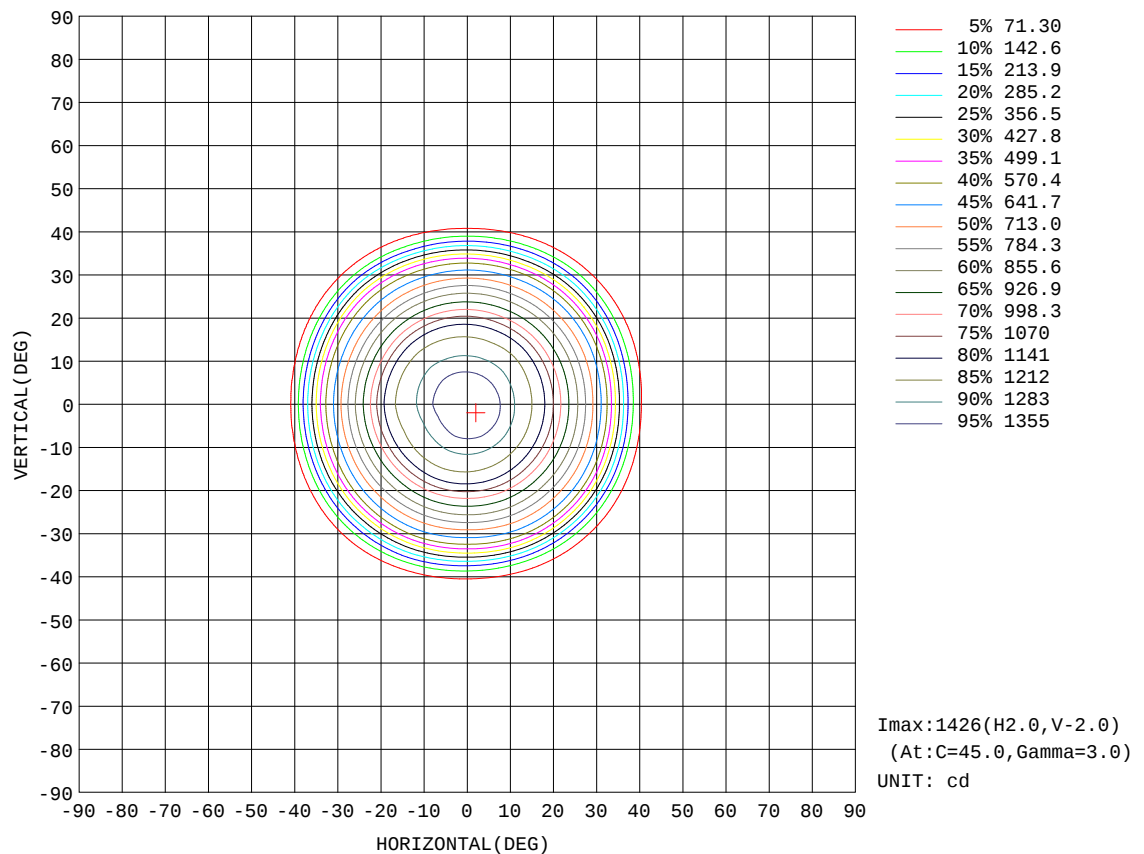
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	88	82	78	88	82	78	87	81	78	75
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	90	97	93	90	86
1.25	103	98	95	102	98	94	100	97	94	90
1.50	106	101	98	105	101	98	103	99	96	92
2.00	109	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	103	106	103	101	95
3.00	112	108	106	110	107	105	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
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:2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:



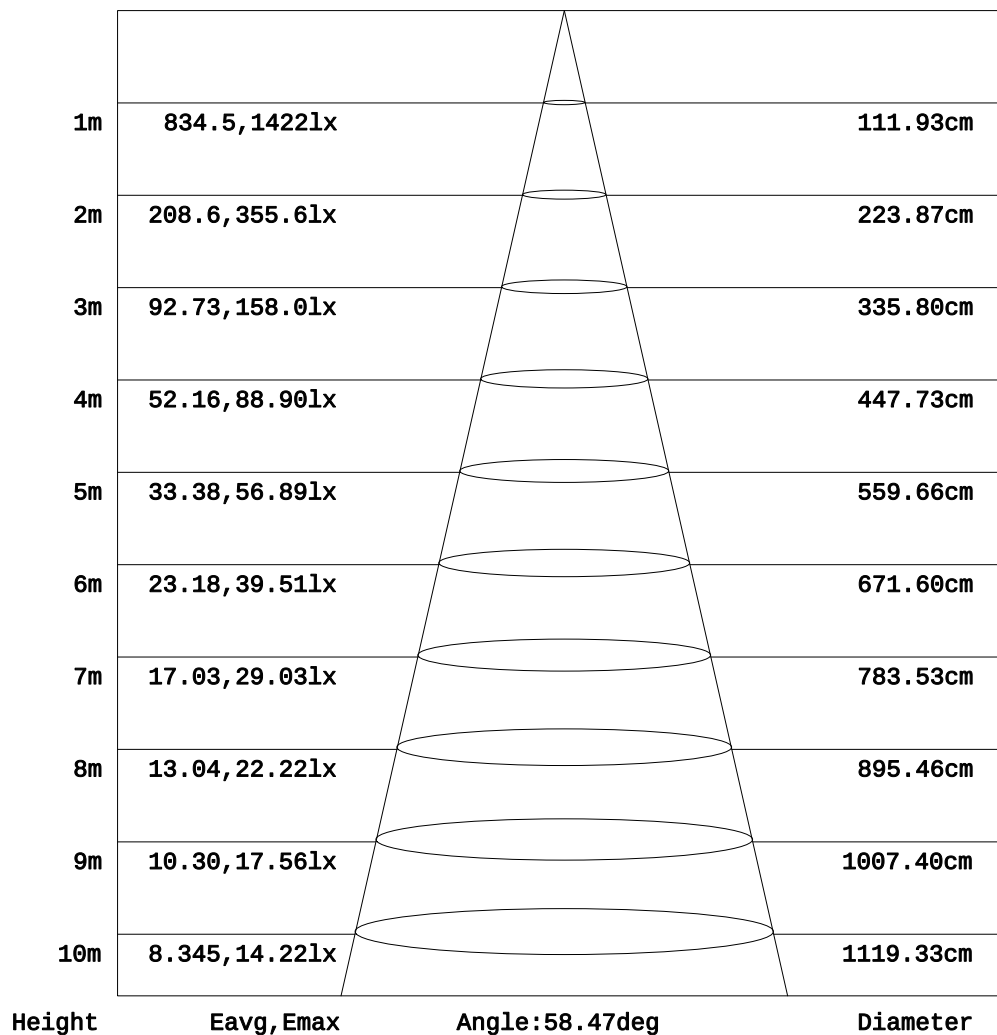
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:

Flux out:873.9 lm



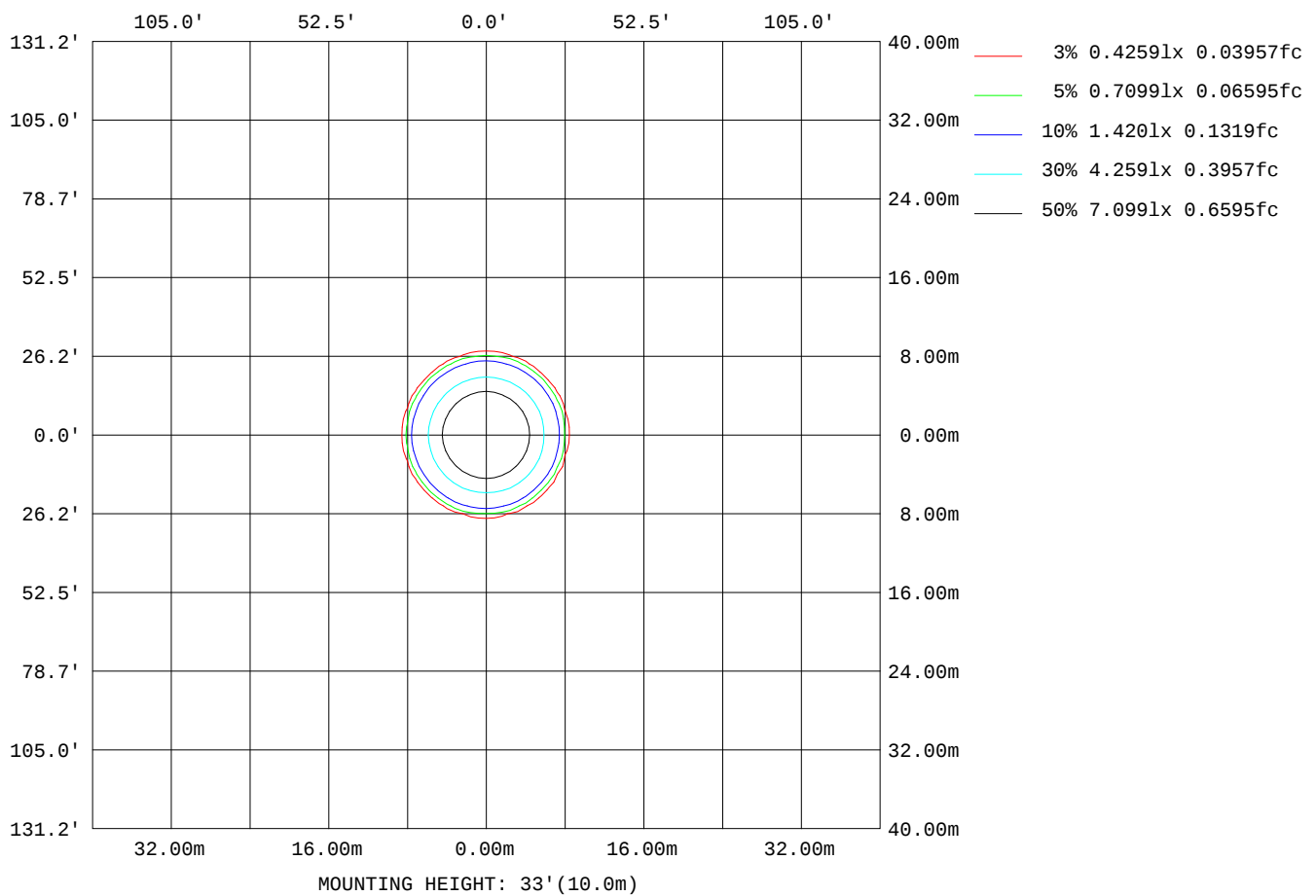
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-10-20

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:220.56V I:0.0609A P:13.152W PF:0.9785 Freq:50.01Hz Lamp Flux:1179.69x1 lm		
NAME: DL2082-WHTC15C01P	TYPE:	WEIGHT:
SPEC.: white R80 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 60mm	Shielding Angle:

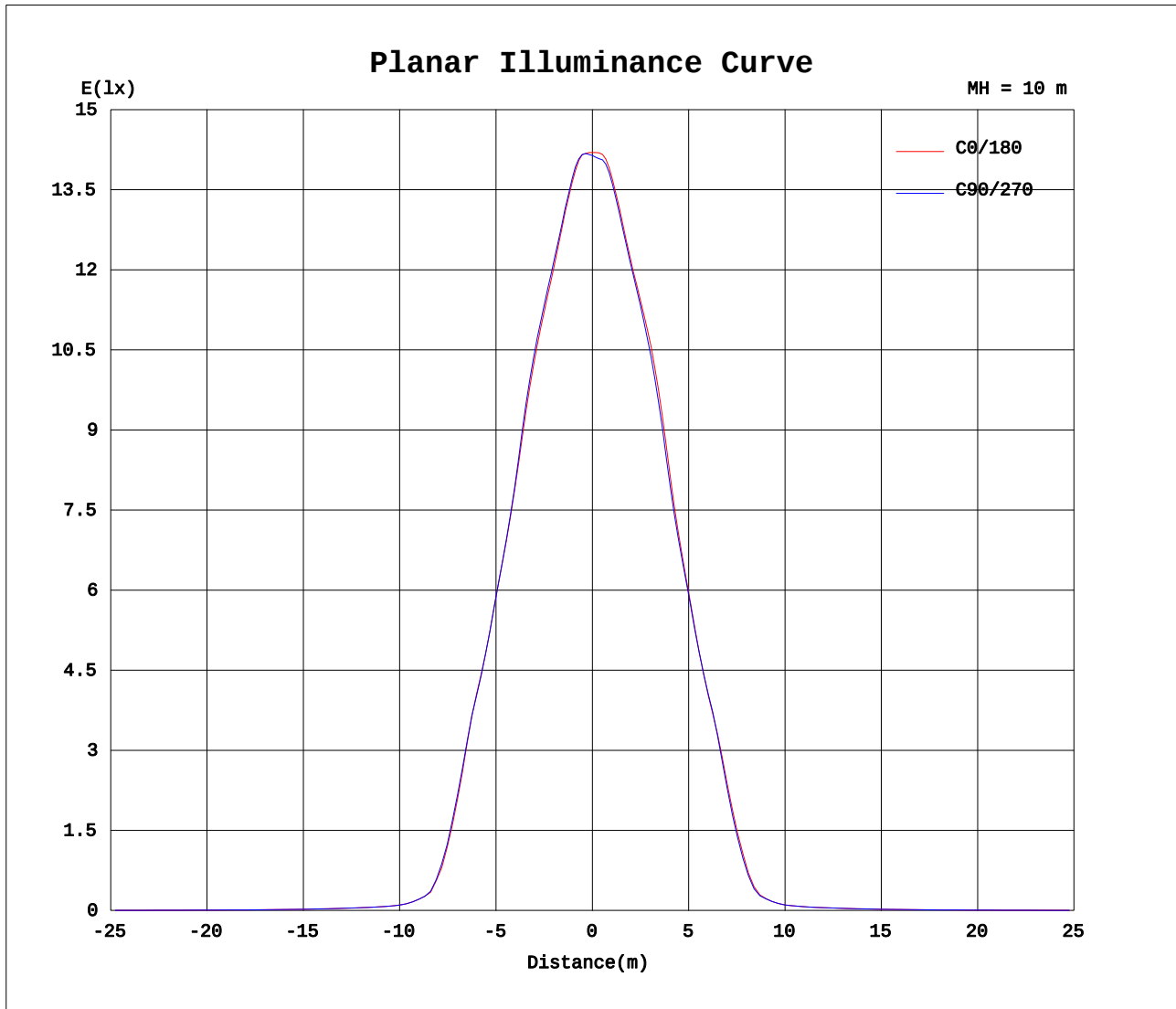
AvgL	cd/m2
L_0~180(65)av	8175
L_0~180(75)av	8797
L_0~180(85)av	20847
L_90~270(65)av	8202
L_90~270(75)av	8833
L_90~270(85)av	21069
L_45(65)av	8192
L_45(75)av	8823
L_45(85)av	20928

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2023-10-20

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: 2023-10-20

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:

```