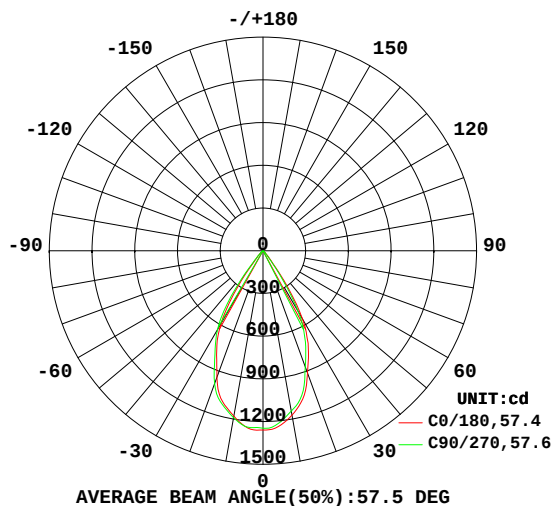


LUMINAIRE PHOTOMETRIC TEST REPORT

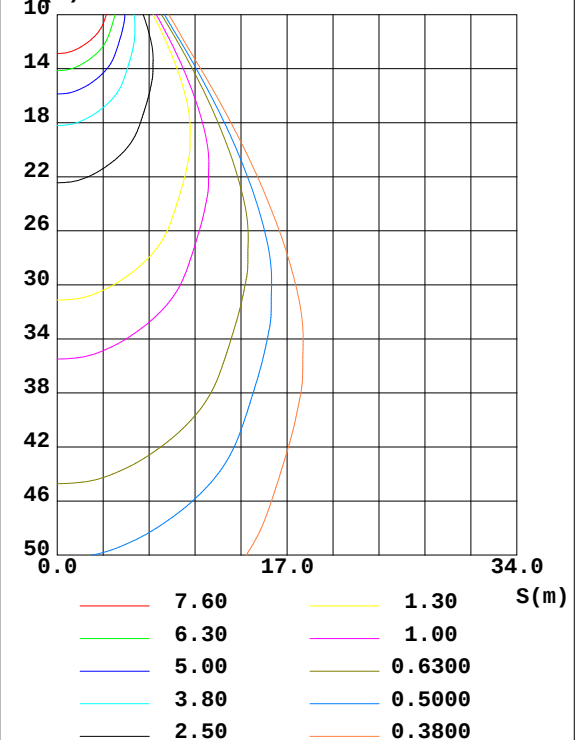
Test:U:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 94.71 lm/W			
MODEL	ML13111202 4000K	I _{max} (cd)	1261	S/MH(C0/180)	0.87
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.91
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	998.28	η UP, DN(C0-180)	0.0, 46.9
NOMINAL FLUX(lm)	998.279	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 53.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	0.90

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: 2024-05-20

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:

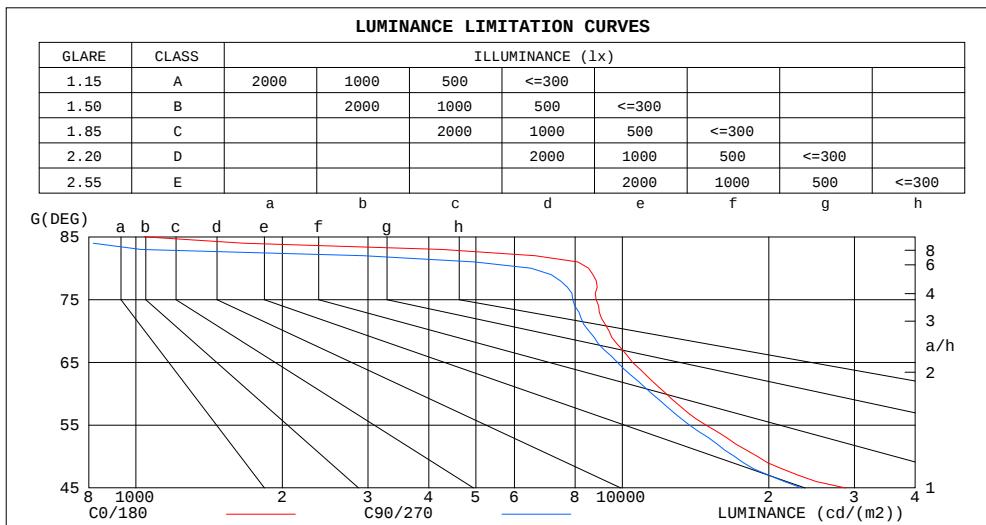
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1172	1154	1144	1143	1179	1190	1191	1178	0- 10	115.5	115.5	11.6, 11.6
20	915.6	882.3	870.4	883.0	947.4	984.9	994.3	956.9	10- 20	299.7	415.2	41.6, 41.6
30	559.1	511.8	500.8	524.9	592.9	630.0	637.9	614.1	20- 30	344.2	759.4	76.1, 76.1
40	73.54	63.20	58.98	63.53	83.52	105.6	117.5	95.45	30- 40	183.0	942.4	94.4, 94.4
50	19.38	17.82	17.38	18.19	20.24	21.96	22.52	21.20	40- 50	30.55	972.9	97.5, 97.5
60	9.785	9.275	9.140	9.611	10.58	11.30	11.43	10.82	50- 60	12.81	985.8	98.7, 98.7
70	5.107	4.617	4.644	5.161	5.756	6.184	6.153	5.748	60- 70	7.527	993.3	99.5, 99.5
80	2.354	1.826	1.791	2.393	3.027	3.274	3.243	2.923	70- 80	4.189	997.5	99.9, 99.9
90	0.0309	0.0309	0.0270	0.0270	0	0	0	0	80- 90	0.8044	998.3	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: 2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1042	727
80	8526	6488
75	8835	7906
70	9391	8539
65	10488	9768
60	12308	11497
55	14854	13734
50	18963	17007
45	28727	23384

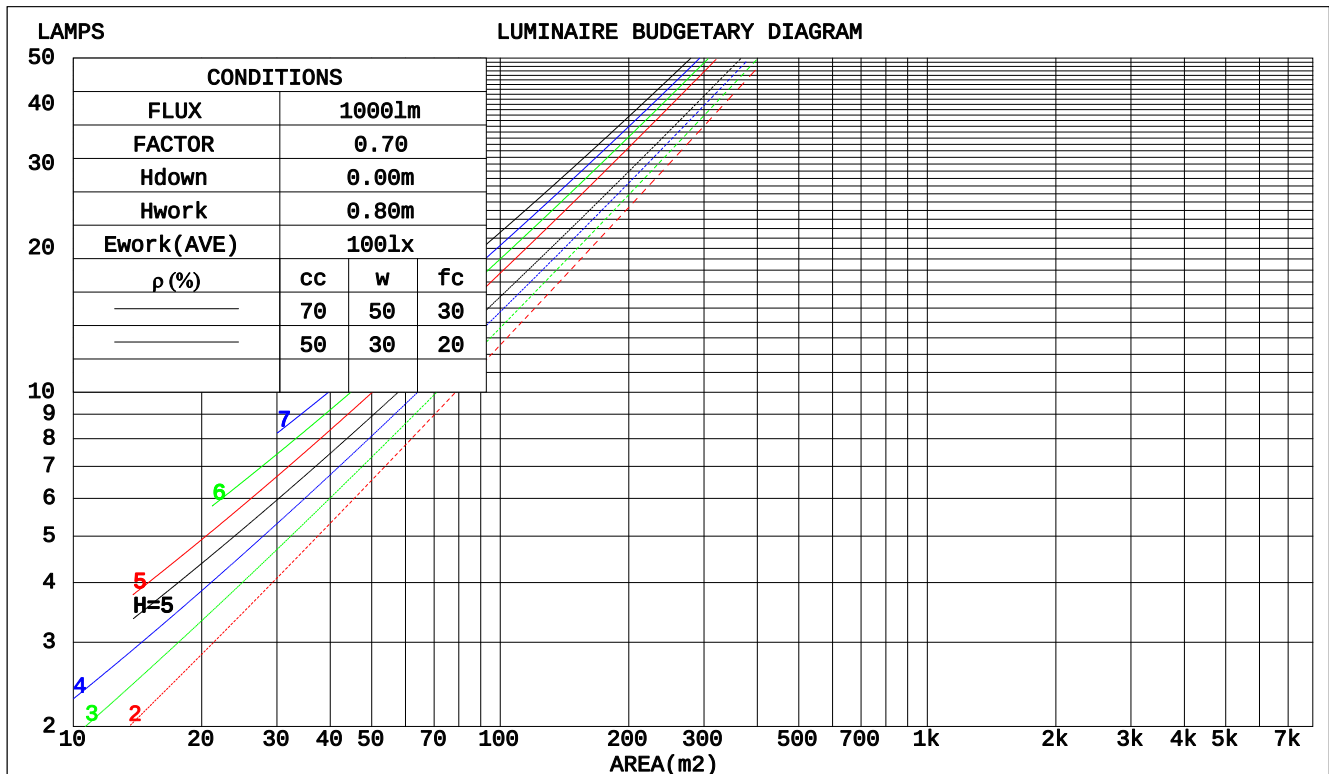
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	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	1.09	1.06	1.04	1.05	1.03	1.01	1.01	.99	.98	.97	.96	.95	.94
2.0	1.03	.99	.96	1.02	.98	.95	.98	.95	.93	.95	.93	.91	.93	.91	.89	.87
3.0	.97	.92	.88	.95	.91	.87	.93	.89	.86	.90	.87	.84	.88	.85	.83	.82
4.0	.91	.85	.81	.89	.84	.81	.87	.83	.80	.85	.82	.79	.83	.80	.78	.76
5.0	.85	.79	.75	.84	.79	.75	.82	.78	.74	.81	.77	.74	.79	.76	.73	.71
6.0	.80	.74	.70	.79	.74	.70	.78	.73	.69	.76	.72	.69	.75	.71	.68	.67
7.0	.76	.70	.66	.75	.69	.65	.74	.69	.65	.72	.68	.65	.71	.67	.64	.63
8.0	.71	.66	.62	.71	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.61	.59
9.0	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.64	.60	.57	.56
10.0	.64	.58	.55	.64	.58	.55	.63	.58	.55	.62	.58	.54	.61	.57	.54	.53



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-05-20

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:

WEC AND CCEC

Test:U:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm					
NAME: DL9411-WH4K10C01			TYPE:		WEIGHT:
SPEC.: white RA90			DIM.:		SERIAL No.:
MFR.:			SUR.: 45mm		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	.176	.100	.032	.170	.097	.031	.157	.090	.029	.146	.084	.027	.135	.078	.025		
2.0	.168	.092	.028	.162	.089	.028	.152	.084	.026	.142	.080	.025	.133	.075	.024		
3.0	.160	.085	.025	.155	.083	.025	.146	.079	.024	.137	.075	.023	.130	.072	.022		
4.0	.152	.079	.023	.148	.077	.023	.140	.074	.022	.133	.071	.021	.126	.068	.021		
5.0	.144	.074	.021	.141	.072	.021	.134	.070	.021	.128	.067	.020	.122	.065	.020		
6.0	.138	.069	.020	.135	.068	.020	.129	.066	.019	.123	.064	.019	.118	.062	.018		
7.0	.132	.065	.018	.129	.064	.018	.124	.062	.018	.119	.061	.018	.114	.059	.017		
8.0	.126	.062	.017	.123	.061	.017	.119	.059	.017	.114	.058	.017	.110	.057	.016		
9.0	.121	.058	.016	.118	.058	.016	.114	.056	.016	.110	.055	.016	.107	.054	.016		
10.0	.116	.056	.015	.114	.055	.015	.110	.054	.015	.106	.053	.015	.103	.052	.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	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.133	.113	.133	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.143	.114	.090	.123	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.073	.114	.085	.063	.078	.060	.045	.045	.035	.026	.015	.011	.009	
5.0	.124	.087	.060	.107	.075	.052	.073	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.100	.067	.044	.069	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.110	.070	.042	.095	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.104	.064	.036	.090	.056	.032	.062	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.099	.059	.031	.085	.051	.027	.059	.036	.020	.035	.021	.012	.011	.007	.004	
10.0	.095	.054	.028	.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:2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm										
NAME: DL9411-WH4K10C01					TYPE:			WEIGHT:		
SPEC.: white RA90					DIM.:			SERIAL No.:		
MFR.:					SUR.: 45mm			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	21.0	22.0	21.3	22.1	22.3	20.3	21.2	20.5	21.4	21.6
3H	21.0	21.9	21.3	22.1	22.3	20.3	21.1	20.5	21.3	21.5
4H	21.0	21.8	21.3	22.0	22.2	20.2	21.0	20.5	21.3	21.5
6H	21.0	21.7	21.3	22.0	22.2	20.2	21.0	20.5	21.2	21.5
8H	20.9	21.7	21.2	21.9	22.2	20.2	20.9	20.5	21.1	21.4
12H	20.9	21.6	21.2	21.9	22.1	20.1	20.8	20.4	21.1	21.4
4H 2H	20.9	21.7	21.1	21.9	22.1	20.1	20.9	20.4	21.1	21.4
3H	20.8	21.5	21.2	21.8	22.1	20.1	20.8	20.4	21.1	21.4
4H	20.9	21.5	21.2	21.8	22.1	20.1	20.8	20.5	21.1	21.4
6H	20.9	21.4	21.2	21.8	22.1	20.1	20.7	20.5	21.0	21.4
8H	20.9	21.4	21.2	21.7	22.1	20.1	20.6	20.5	21.0	21.3
12H	20.8	21.3	21.2	21.6	22.0	20.0	20.5	20.5	20.9	21.3
8H 4H	20.8	21.3	21.2	21.6	22.0	20.1	20.6	20.4	20.9	21.3
6H	20.8	21.2	21.2	21.6	22.0	20.1	20.5	20.5	20.9	21.3
8H	20.8	21.2	21.2	21.6	22.0	20.0	20.4	20.5	20.8	21.3
12H	20.7	21.1	21.2	21.5	22.0	20.0	20.3	20.4	20.7	21.2
12H 4H	20.7	21.2	21.1	21.6	21.9	20.0	20.5	20.4	20.9	21.2
6H	20.8	21.1	21.2	21.5	22.0	20.0	20.4	20.5	20.8	21.3
8H	20.7	21.1	21.2	21.5	22.0	20.0	20.3	20.5	20.8	21.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 3.5 / - 3.2					+ 2.8 / - 2.7				
1.5H	+ 5.7 / - 2.7					+ 4.7 / - 2.2				
2.0H	+ 2.2 / - 1.0					+ 1.5 / - 1.0				

CIE Pub.117, 998.3 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.0)
Area: 0.00159 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:

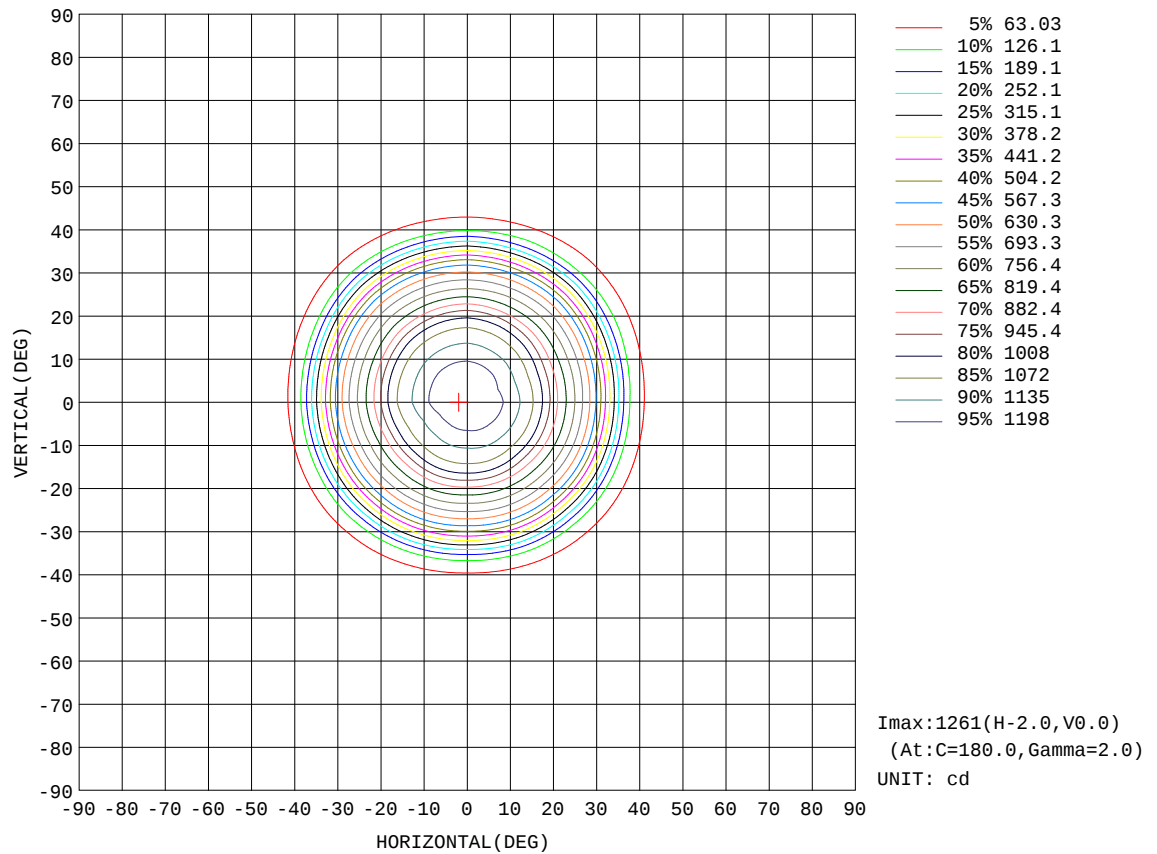
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	85	82
1.00	100	94	91	99	94	90	97	94	90	86
1.25	103	98	95	102	98	95	101	97	94	90
1.50	106	101	98	105	101	98	103	99	97	92
2.00	109	105	101	107	104	101	105	102	99	94
2.50	110	107	104	109	105	103	106	103	101	95
3.00	112	109	106	110	107	105	107	104	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	110	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:2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:



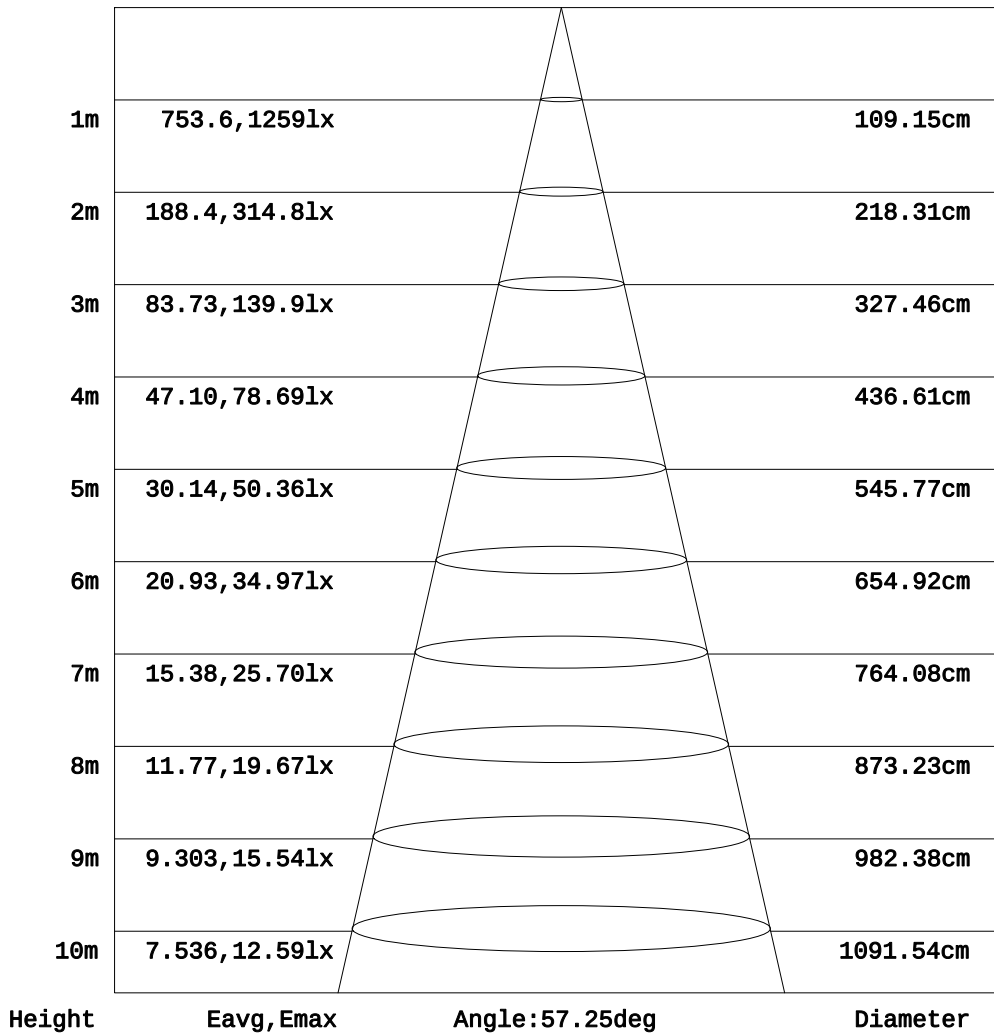
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:

Flux out:727.4 lm



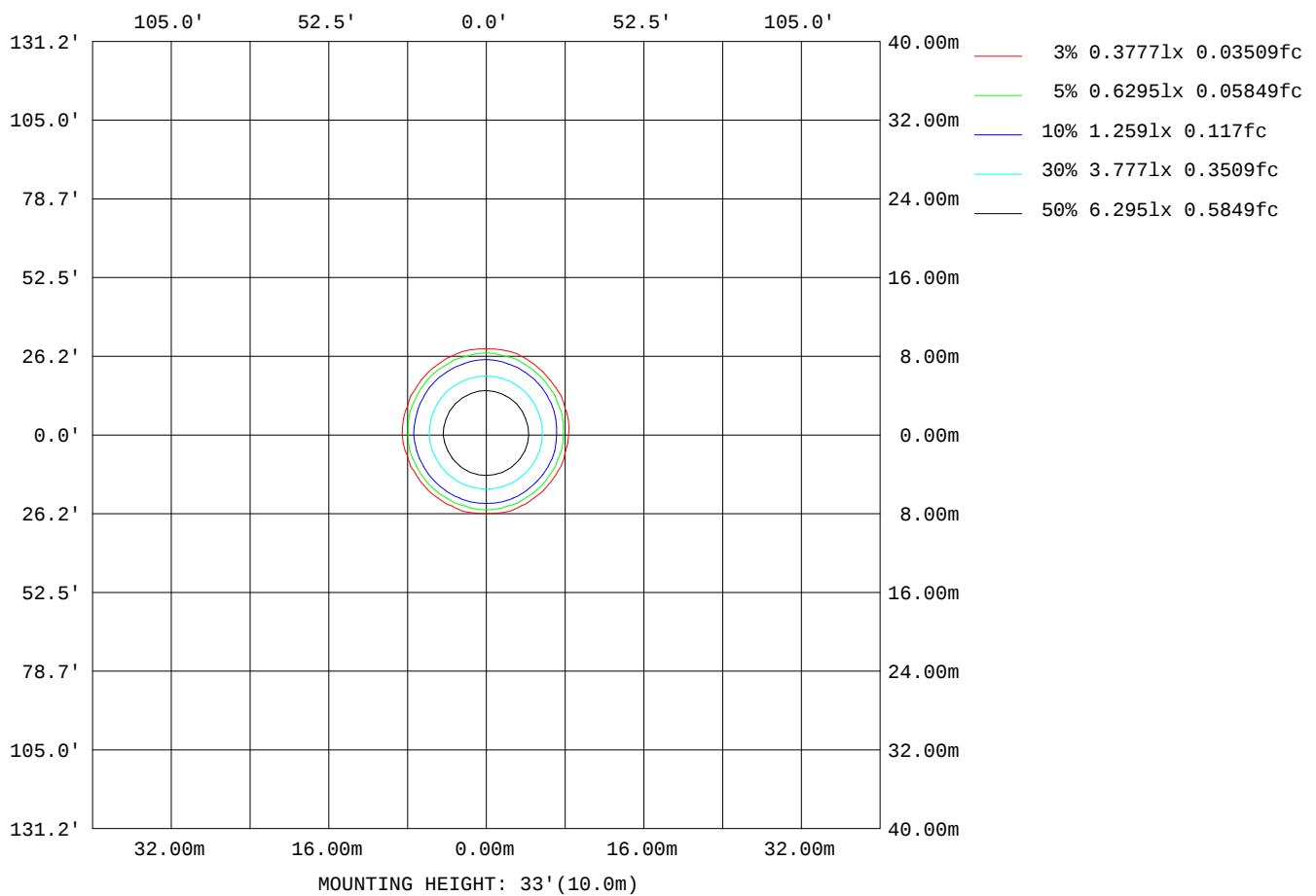
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-05-20

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:230.79V I:0.0470A P:10.541W PF:0.9713 Freq:49.99Hz Lamp Flux:998.279x1 lm		
NAME: DL9411-WH4K10C01	TYPE:	WEIGHT:
SPEC.: white RA90	DIM.:	SERIAL No.:
MFR.:	SUR.: 45mm	Shielding Angle:

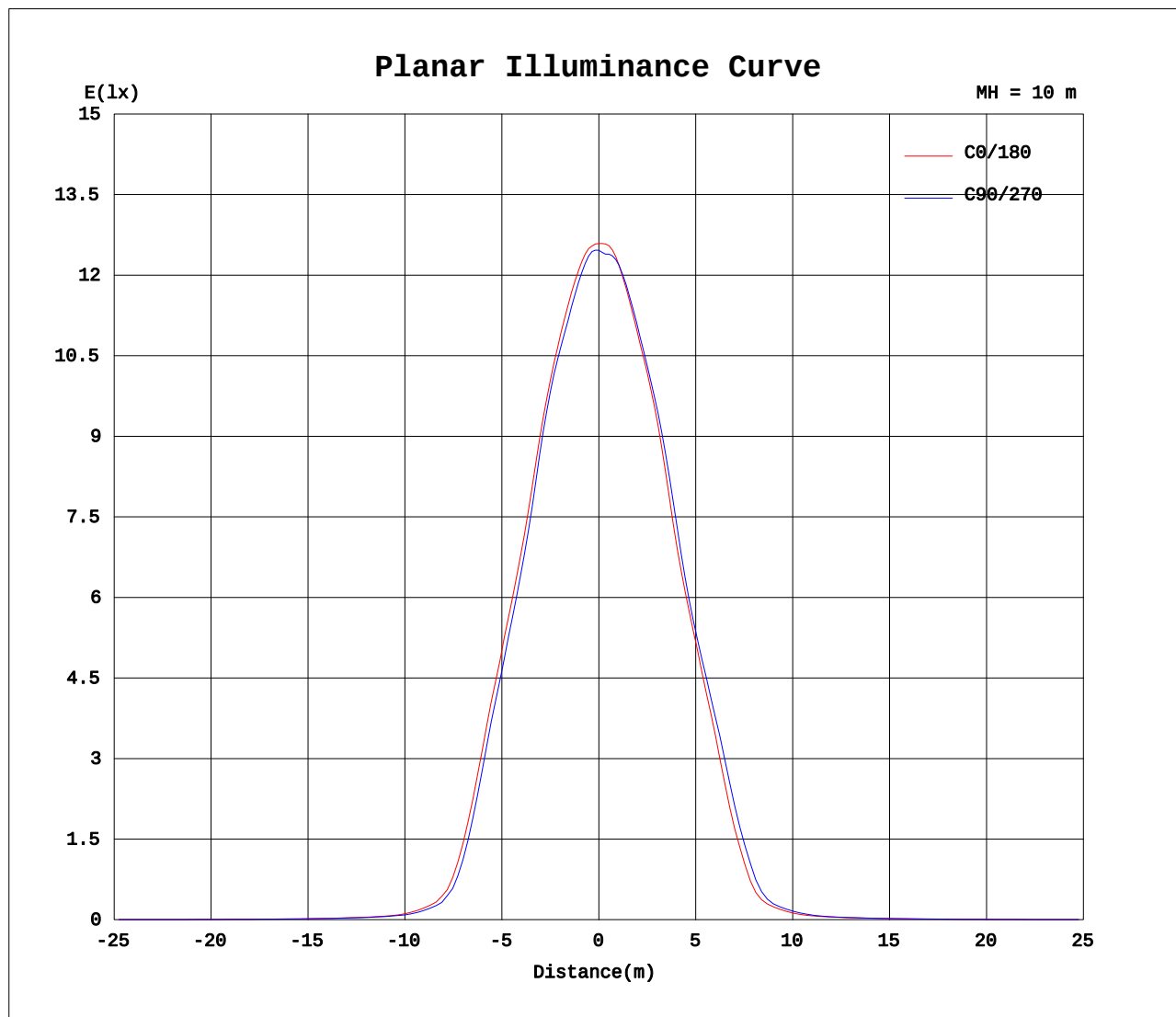
AvgL	cd/m2
L_0~180(65)av	11077
L_0~180(75)av	9682
L_0~180(85)av	922
L_90~270(65)av	11168
L_90~270(75)av	9442
L_90~270(85)av	2762
L_45(65)av	11166
L_45(75)av	9555
L_45(85)av	1896

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-05-20

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: 2024-05-20

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:

```