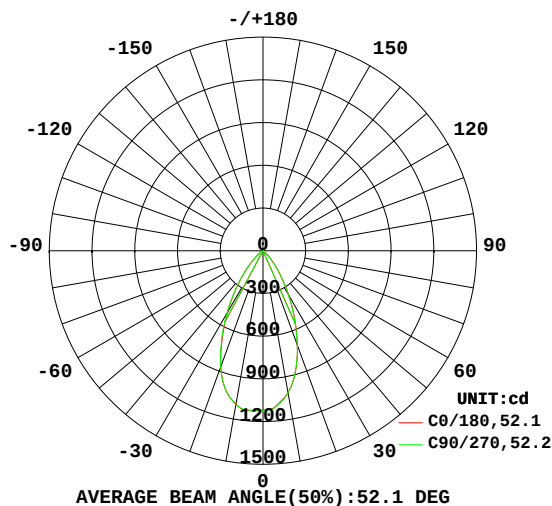


LUMINAIRE PHOTOMETRIC TEST REPORT

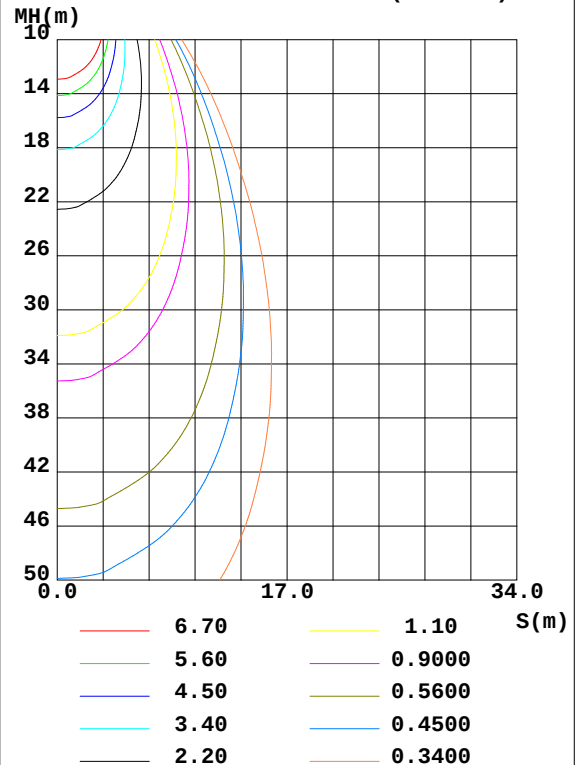
Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 84.99 lm/W			
MODEL	4000K	I _{max} (cd)	1129	S/MH(C0/180)	0.87
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	934.65	η UP, DN(C0-180)	0.0,45.0
NOMINAL FLUX(lm)	934.647	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,55.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	0.85

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:2024-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

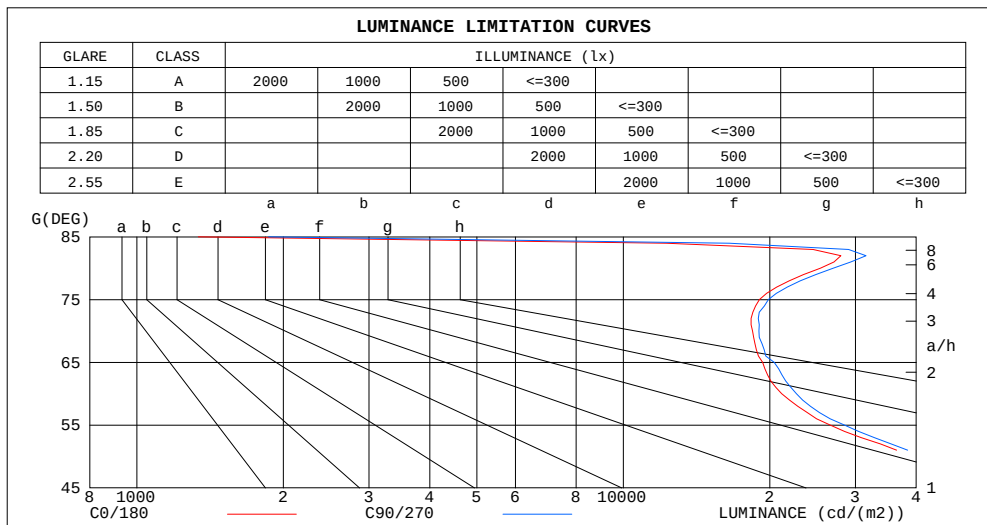
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1012	998.0	1013	1055	1094	1106	1100	1068	0- 10	104.3	104.3	11.2,11.2
20	706.1	682.3	704.3	774.7	867.8	896.0	870.3	792.3	10- 20	262.0	366.3	39.2,39.2
30	363.2	345.0	358.9	408.4	498.8	536.0	505.3	432.4	20- 30	275.4	641.7	68.7,68.7
40	126.6	112.4	124.3	157.9	208.8	232.8	211.8	169.2	30- 40	177.7	819.4	87.7,87.7
50	29.08	25.02	30.31	41.03	61.43	62.25	58.46	42.40	40- 50	72.25	891.7	95.4,95.4
60	11.96	11.53	12.81	14.33	18.43	18.28	17.73	14.05	50- 60	22.26	913.9	97.8,97.8
70	7.126	6.779	7.342	8.177	9.275	9.436	9.248	8.210	60- 70	10.93	924.9	99,99
80	4.988	4.973	5.297	5.498	5.658	5.572	5.403	5.176	70- 80	6.836	931.7	99.7,99.7
90	0.1158	0.1120	0.1120	0.1120	0.0077	0.0077	0.0154	0.0116	80- 90	2.948	934.6	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:2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
 Humidity:65.0%
 Test Distance:7.450m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1338	1865
80	25422	26996
75	19044	19876
70	18439	18998
65	19331	20417
60	21161	22678
55	26611	28483
50	40036	41724
45	78376	76980

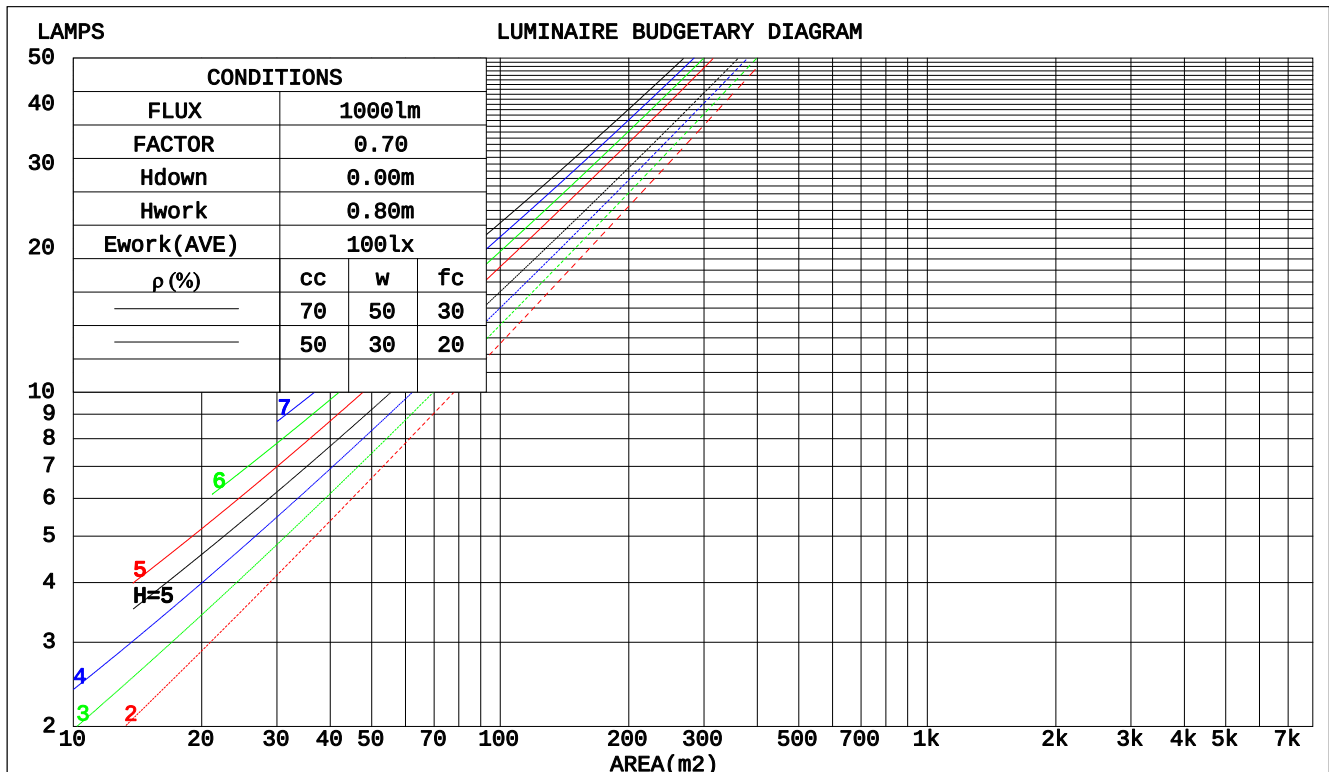
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	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	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.95	.93
2.0	1.02	.98	.94	1.00	.97	.93	.97	.94	.91	.94	.92	.89	.91	.89	.87	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.88	.85	.82	.86	.83	.81	.79
4.0	.89	.83	.78	.87	.82	.78	.85	.81	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.83	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.71	.77	.73	.70	.69
6.0	.78	.71	.67	.77	.71	.67	.75	.70	.66	.74	.69	.66	.73	.69	.65	.64
7.0	.73	.67	.62	.72	.66	.62	.71	.66	.62	.70	.65	.62	.69	.64	.61	.60
8.0	.69	.63	.58	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.56
9.0	.65	.59	.55	.64	.59	.55	.63	.58	.55	.63	.58	.54	.62	.57	.54	.53
10.0	.61	.56	.52	.61	.55	.52	.60	.55	.51	.59	.55	.51	.59	.54	.51	.50



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm									
NAME: 3A-DL9660-WHTC13C01 13W					TYPE:			WEIGHT:	
SPEC.:					DIM.:			SERIAL No.:	
MFR.:					SUR.: 38mm			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	.188	.107	.034	.182	.104	.033	.169	.097	.031	.157	.091	.029	.147	.085	.027	
2.0	.179	.098	.030	.174	.096	.029	.163	.091	.028	.153	.086	.027	.144	.081	.026	
3.0	.170	.090	.027	.165	.088	.027	.156	.085	.026	.148	.081	.025	.140	.077	.024	
4.0	.161	.084	.025	.157	.082	.024	.149	.079	.024	.142	.076	.023	.135	.073	.022	
5.0	.153	.078	.023	.149	.077	.022	.142	.074	.022	.136	.072	.021	.130	.069	.021	
6.0	.146	.073	.021	.142	.072	.021	.136	.070	.020	.131	.068	.020	.125	.066	.020	
7.0	.139	.069	.019	.136	.068	.019	.130	.066	.019	.125	.064	.019	.121	.063	.018	
8.0	.132	.065	.018	.130	.064	.018	.125	.062	.018	.120	.061	.018	.116	.060	.017	
9.0	.126	.061	.017	.124	.061	.017	.120	.059	.017	.116	.058	.017	.112	.057	.016	
10.0	.121	.058	.016	.119	.058	.016	.115	.056	.016	.111	.055	.016	.108	.054	.016	

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	.172	.157	.144	.147	.135	.124	.101	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.135	.114	.096	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.145	.114	.088	.125	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.059	.109	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.119	.078	.049	.102	.068	.043	.071	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.113	.071	.041	.097	.061	.036	.067	.043	.026	.039	.025	.015	.013	.008	.005	
8.0	.107	.065	.036	.092	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.102	.059	.031	.088	.052	.027	.061	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.097	.055	.027	.084	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm										
NAME: 3A-DL9660-WHTC13C01 13W					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.: 38mm			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	22.4	23.3	22.6	23.5	23.7	22.3	23.2	22.5	23.4	23.6
3H	22.4	23.3	22.7	23.5	23.7	22.4	23.3	22.6	23.5	23.7
4H	22.5	23.4	22.8	23.6	23.8	22.4	23.3	22.7	23.5	23.7
6H	22.7	23.5	23.0	23.7	24.0	22.6	23.4	22.9	23.7	23.9
8H	22.8	23.6	23.1	23.8	24.1	22.8	23.6	23.1	23.8	24.1
12H	22.8	23.5	23.1	23.8	24.1	22.8	23.5	23.1	23.8	24.1
4H 2H	22.2	23.1	22.5	23.3	23.5	22.1	23.0	22.4	23.2	23.4
3H	22.4	23.1	22.7	23.4	23.7	22.3	23.1	22.6	23.3	23.6
4H	22.5	23.2	22.9	23.5	23.8	22.5	23.2	22.8	23.5	23.8
6H	22.8	23.4	23.2	23.8	24.1	22.8	23.4	23.2	23.8	24.1
8H	23.1	23.6	23.5	24.0	24.3	23.1	23.7	23.5	24.0	24.4
12H	23.1	23.6	23.5	23.9	24.3	23.1	23.6	23.5	24.0	24.4
8H 4H	22.6	23.1	22.9	23.5	23.8	22.5	23.1	22.9	23.4	23.8
6H	23.0	23.5	23.5	23.9	24.3	23.0	23.5	23.5	23.9	24.3
8H	23.3	23.7	23.8	24.2	24.6	23.4	23.8	23.9	24.2	24.7
12H	23.3	23.7	23.8	24.1	24.6	23.4	23.8	23.9	24.2	24.7
12H 4H	22.6	23.1	23.0	23.4	23.8	22.5	23.0	22.9	23.4	23.8
6H	23.1	23.5	23.5	23.9	24.3	23.1	23.5	23.5	23.9	24.3
8H	23.4	23.7	23.9	24.2	24.7	23.5	23.8	23.9	24.3	24.7
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 2.0 / - 2.4					+ 2.0 / - 2.1				
1.5H	+ 3.7 / - 2.4					+ 3.6 / - 2.1				
2.0H	+ 3.1 / - 1.0					+ 2.8 / - 0.8				

CIE Pub.117, 934.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.2)
Area: 0.00113 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:

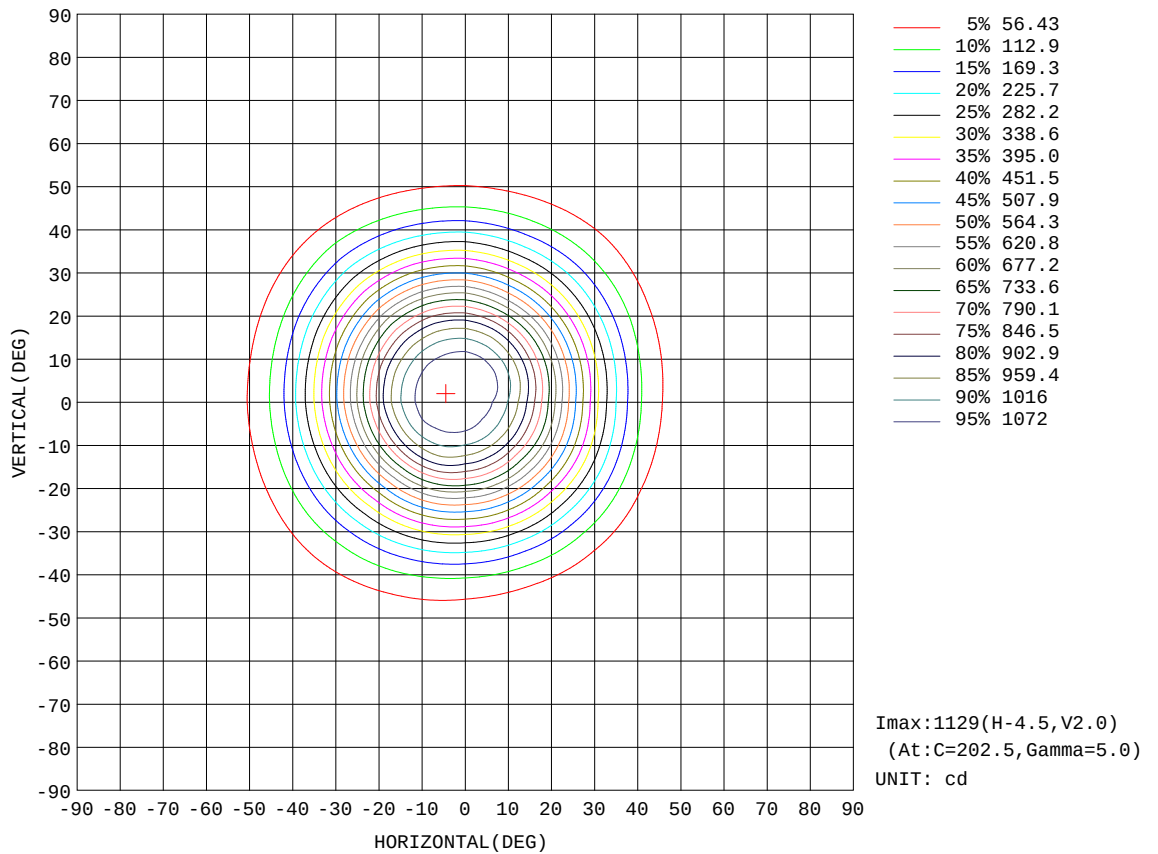
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	83	77	73	82	76	72	69
0.80	92	85	81	91	85	81	90	84	81	77
1.00	97	91	87	96	90	86	94	90	86	82
1.25	101	95	92	100	95	91	98	94	90	86
1.50	104	99	95	103	98	95	101	97	94	89
2.00	107	103	99	106	102	98	103	100	97	91
2.50	109	105	102	107	104	101	104	101	99	93
3.00	111	107	104	109	106	103	106	103	101	94
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	107	105	97
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:2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:

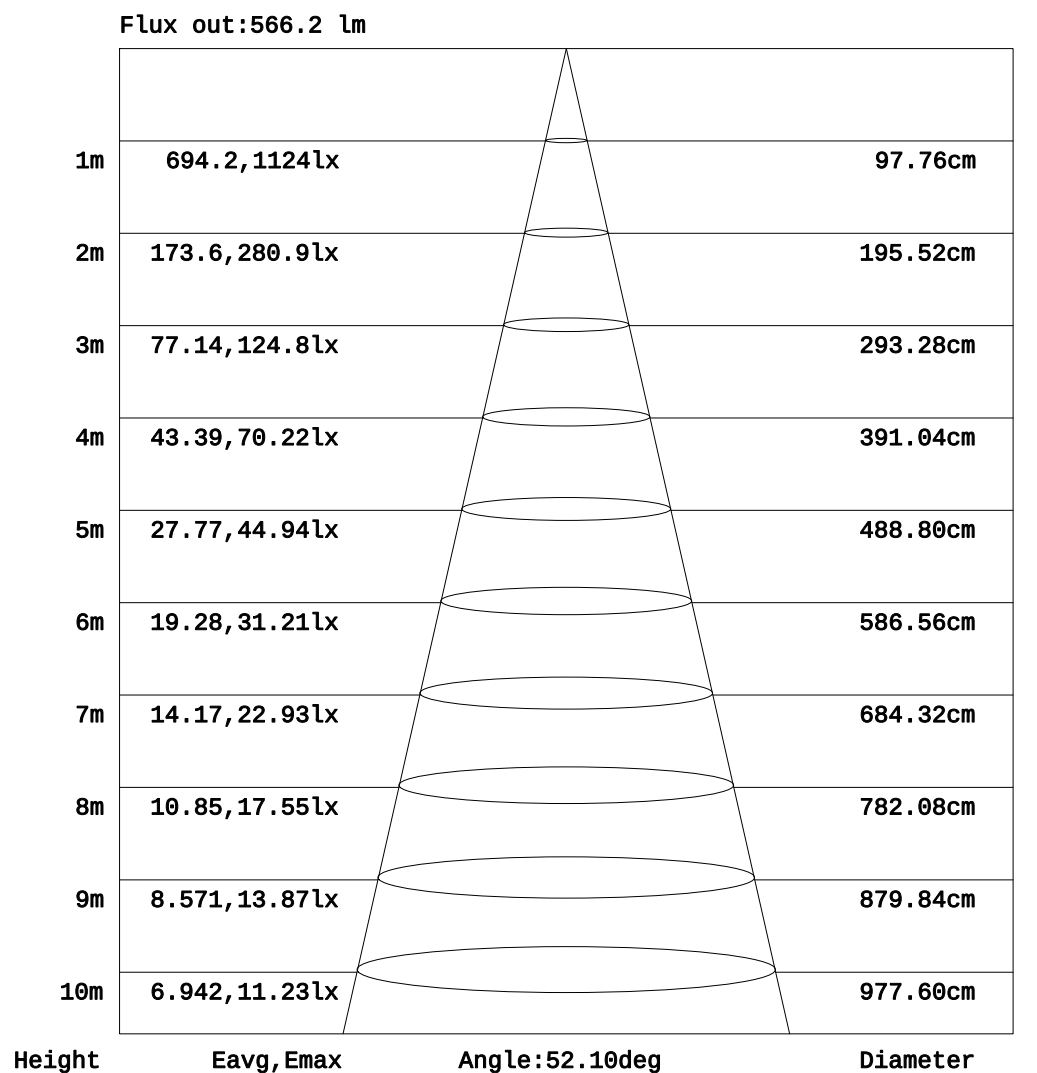


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WBTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:



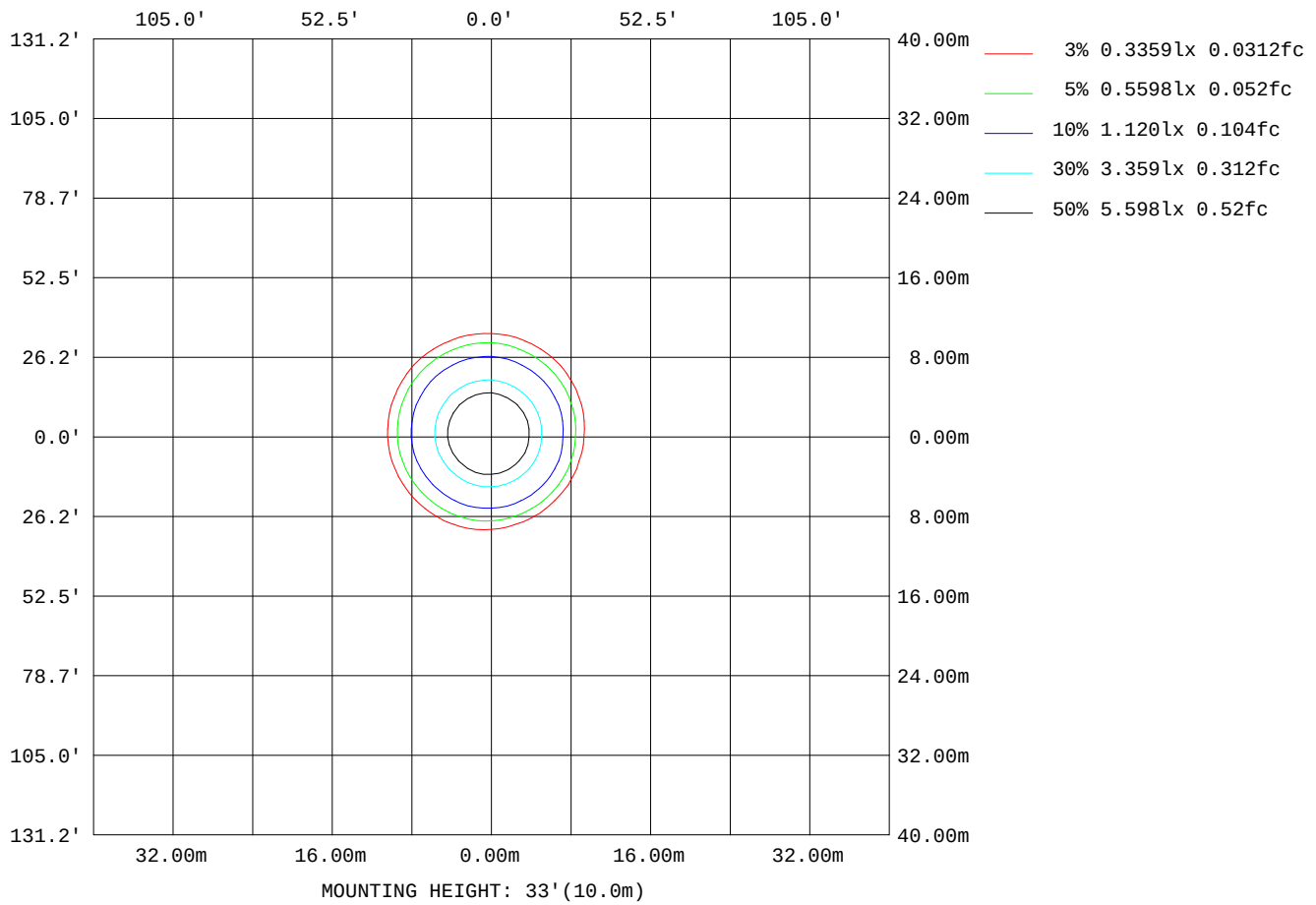
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:230.50V I:0.0499A P:10.997W PF:0.9553 Freq:49.99Hz Lamp Flux:934.647x1 lm		
NAME: 3A-DL9660-WHTC13C01 13W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.: 38mm	Shielding Angle:

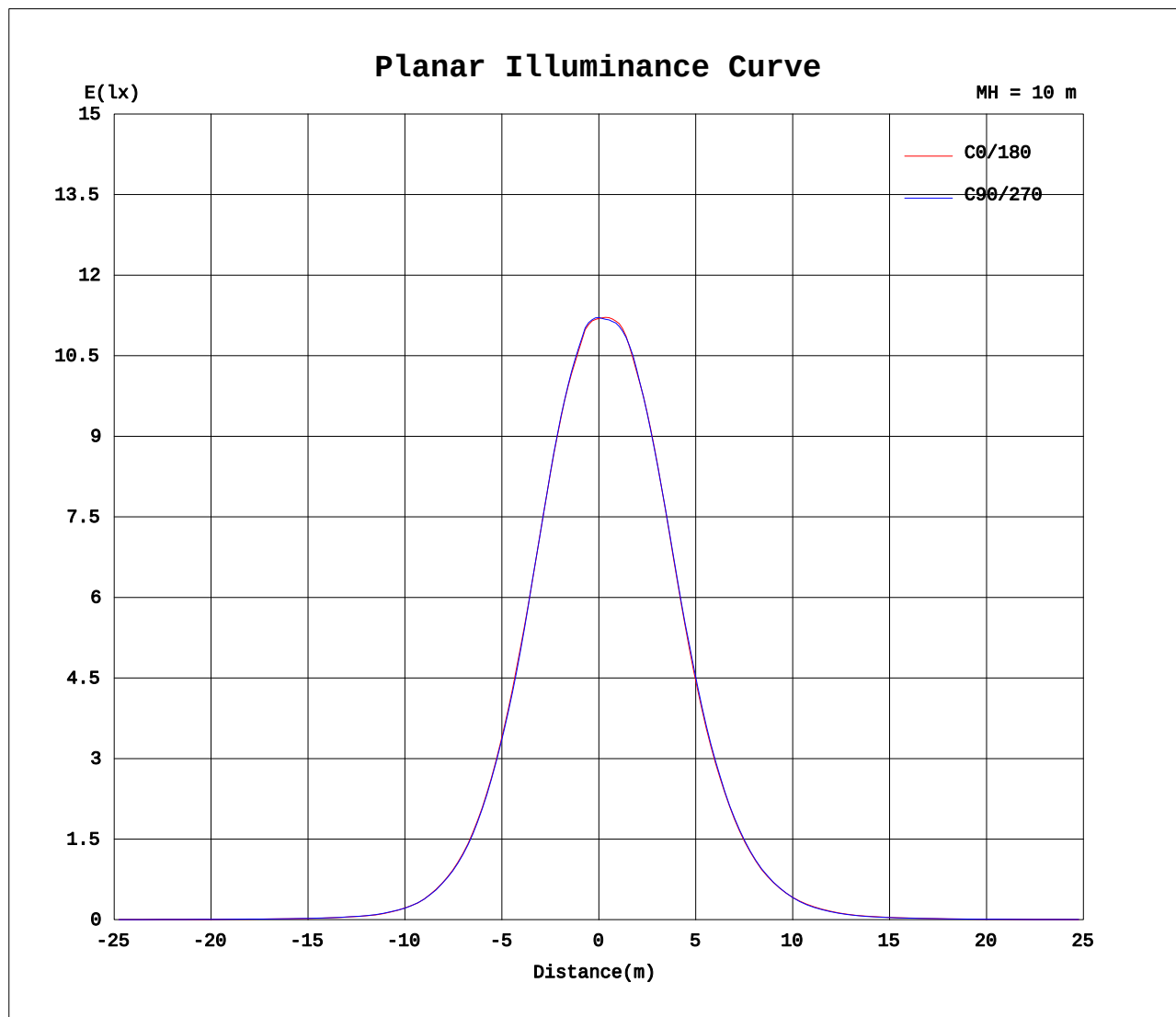
AvgL	cd/m2
L_0~180(65)av	22756
L_0~180(75)av	21567
L_0~180(85)av	25646
L_90~270(65)av	23224
L_90~270(75)av	21877
L_90~270(85)av	23871
L_45(65)av	22487
L_45(75)av	21498
L_45(85)av	29302

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-09-03

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_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: 2024-09-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_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-2000A_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

```