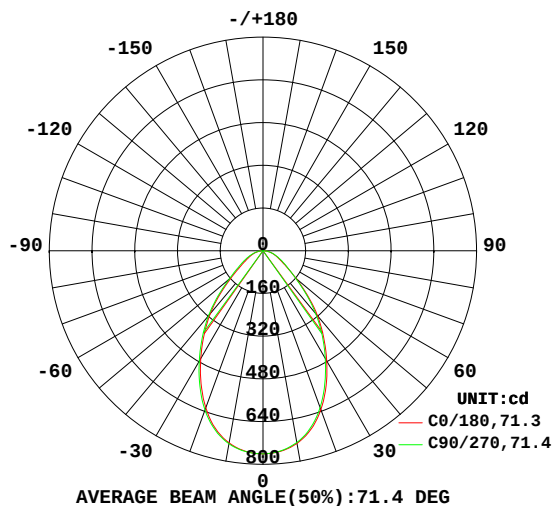


LUMINAIRE PHOTOMETRIC TEST REPORT

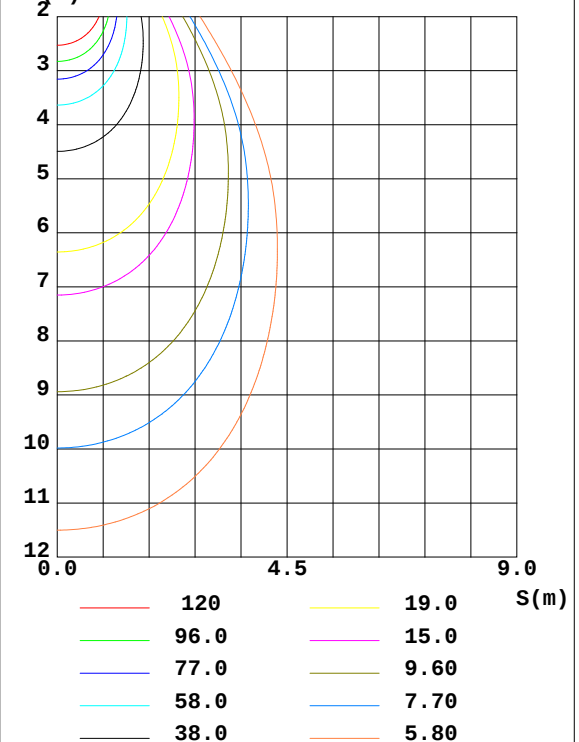
Test:U:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.42 lm/W			
MODEL	2835 120 5700K	I _{max} (cd)	760.7	S/MH(C0/180)	0.99
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	1.01
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1154.3	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	1154.27	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.10

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: 2024-07-29

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:

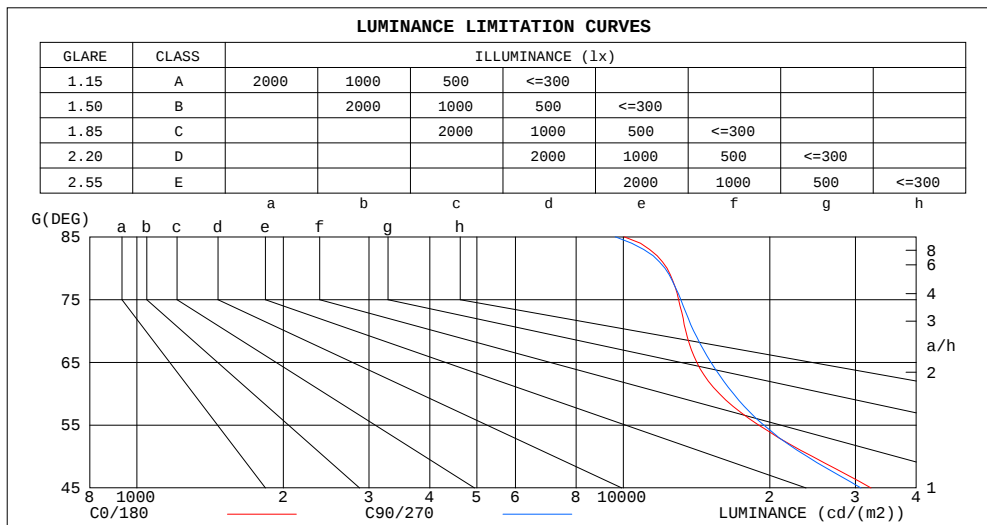
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	732.9	730.7	729.3	729.0	731.2	732.5	734.0	734.5	0- 10	71.26	71.26	6.17, 6.17
20	633.8	628.9	625.1	623.6	626.3	629.2	635.1	638.3	10- 20	193.3	264.6	22.9, 22.9
30	477.7	471.4	467.0	464.3	466.8	468.6	477.4	483.2	20- 30	253.7	518.3	44.9, 44.9
40	317.7	312.7	307.5	303.8	307.0	309.3	317.6	322.6	30- 40	243.9	762.2	66, 66
50	162.1	159.0	160.0	155.1	152.6	155.0	166.4	169.1	40- 50	178.2	940.5	81.5, 81.5
60	81.14	81.86	87.82	84.32	76.76	79.40	89.60	89.50	50- 60	103.5	1044	90.4, 90.4
70	47.35	48.51	49.78	48.22	44.51	46.15	50.24	51.14	60- 70	63.91	1108	96, 96
80	21.99	22.40	22.06	20.82	19.38	20.08	21.86	22.97	70- 80	36.54	1144	99.1, 99.1
90	0.3981	0.3936	0.3915	0.3949	0.1761	0.1736	0.1589	0.1781	80- 90	9.829	1154	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: 2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	10042	9627
80	12295	12178
75	12991	13127
70	13439	13952
65	14161	15137
60	15753	16838
55	18973	19430
50	24475	23863
45	32288	30790

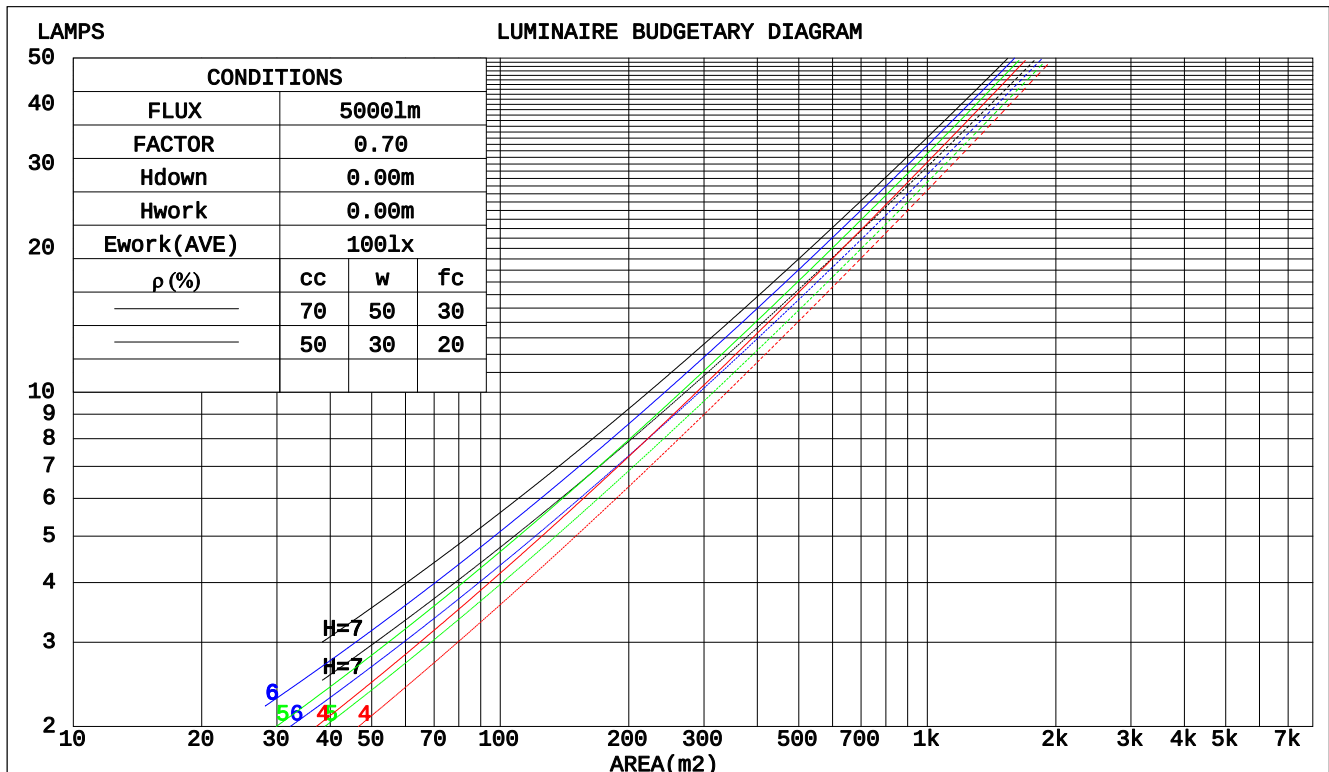
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.91	.87	.84	.88	.85	.82	.85	.83	.80	.78
3.0	.87	.81	.75	.86	.80	.75	.83	.78	.74	.80	.76	.72	.78	.74	.71	.69
4.0	.79	.72	.67	.78	.71	.66	.76	.70	.65	.74	.69	.64	.72	.67	.64	.62
5.0	.73	.65	.59	.72	.64	.59	.70	.63	.59	.68	.62	.58	.66	.61	.57	.56
6.0	.67	.59	.54	.66	.59	.53	.64	.58	.53	.63	.57	.53	.61	.56	.52	.50
7.0	.61	.54	.49	.61	.54	.48	.59	.53	.48	.58	.52	.48	.57	.52	.48	.46
8.0	.57	.50	.44	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.45	.40	.49	.44	.40	.39
10.0	.49	.42	.38	.49	.42	.38	.48	.42	.37	.47	.41	.37	.46	.41	.37	.36



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm					
NAME: AL5009-WHTC15S02-TS			TYPE:		WEIGHT:
SPEC.: white RA90 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 115mm		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	.244	.139	.044	.237	.135	.043	.224	.128	.041	.212	.122	.039	.201	.117	.038	
2.0	.232	.127	.039	.226	.125	.038	.215	.120	.037	.205	.115	.036	.196	.111	.035	
3.0	.219	.116	.035	.213	.114	.034	.204	.110	.034	.195	.107	.033	.186	.103	.032	
4.0	.205	.107	.031	.200	.105	.031	.192	.102	.030	.184	.099	.030	.177	.096	.029	
5.0	.192	.098	.028	.188	.097	.028	.181	.094	.028	.174	.092	.027	.167	.089	.027	
6.0	.181	.091	.026	.177	.090	.026	.171	.087	.025	.164	.085	.025	.159	.083	.025	
7.0	.170	.084	.024	.167	.083	.024	.161	.082	.023	.156	.080	.023	.150	.078	.023	
8.0	.161	.079	.022	.158	.078	.022	.153	.076	.022	.148	.075	.022	.143	.073	.021	
9.0	.152	.074	.021	.150	.073	.020	.145	.072	.020	.140	.070	.020	.136	.069	.020	
10.0	.144	.069	.019	.142	.069	.019	.138	.068	.019	.134	.066	.019	.130	.065	.019	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.176	.157	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.082	.133	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.125	.086	.056	.086	.060	.040	.050	.035	.023	.016	.011	.008	
5.0	.138	.089	.053	.119	.077	.046	.082	.054	.032	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.119	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.098	.054	.024	.068	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.024	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm										
NAME: AL5009-WHTC15S02-TS					TYPE:			WEIGHT:		
SPEC.: white RA90 3000K+5700K					DIM.:			SERIAL No.:		
MFR.:					SUR.: 115mm			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	21.8	23.1	22.0	23.2	23.4	21.6	22.8	21.8	23.0	23.2
3H	22.5	23.7	22.8	23.9	24.1	22.4	23.5	22.6	23.7	23.9
4H	22.9	24.0	23.2	24.2	24.5	22.7	23.8	23.0	24.1	24.3
6H	23.2	24.2	23.5	24.5	24.8	23.0	24.1	23.3	24.3	24.6
8H	23.3	24.3	23.6	24.6	24.8	23.1	24.1	23.5	24.4	24.7
12H	23.4	24.3	23.7	24.6	24.9	23.2	24.1	23.5	24.4	24.7
4H 2H	22.0	23.1	22.3	23.3	23.6	21.8	22.9	22.1	23.1	23.4
3H	23.0	24.0	23.3	24.2	24.5	22.8	23.8	23.2	24.1	24.3
4H	23.5	24.4	23.9	24.7	25.0	23.3	24.2	23.7	24.5	24.8
6H	24.0	24.7	24.3	25.1	25.4	23.8	24.5	24.2	24.9	25.2
8H	24.1	24.8	24.5	25.2	25.6	23.9	24.6	24.3	25.0	25.4
12H	24.2	24.9	24.6	25.2	25.6	24.0	24.7	24.4	25.1	25.5
8H 4H	23.7	24.4	24.1	24.8	25.1	23.5	24.2	23.9	24.6	25.0
6H	24.3	24.9	24.7	25.3	25.7	24.1	24.7	24.5	25.1	25.5
8H	24.5	25.0	25.0	25.4	25.9	24.3	24.9	24.8	25.3	25.7
12H	24.7	25.1	25.1	25.6	26.0	24.5	24.9	25.0	25.4	25.9
12H 4H	23.7	24.3	24.1	24.7	25.1	23.5	24.2	23.9	24.6	25.0
6H	24.3	24.8	24.8	25.2	25.7	24.2	24.7	24.6	25.1	25.5
8H	24.6	25.0	25.0	25.5	25.9	24.4	24.9	24.9	25.3	25.8
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.5 / - 0.7					+ 0.5 / - 0.6				
1.5H	+ 0.5 / - 0.5					+ 0.5 / - 0.4				
2.0H	+ 1.2 / - 0.9					+ 1.1 / - 0.6				

CIE Pub.117, 1154 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.5)
Area: 0.01039 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:

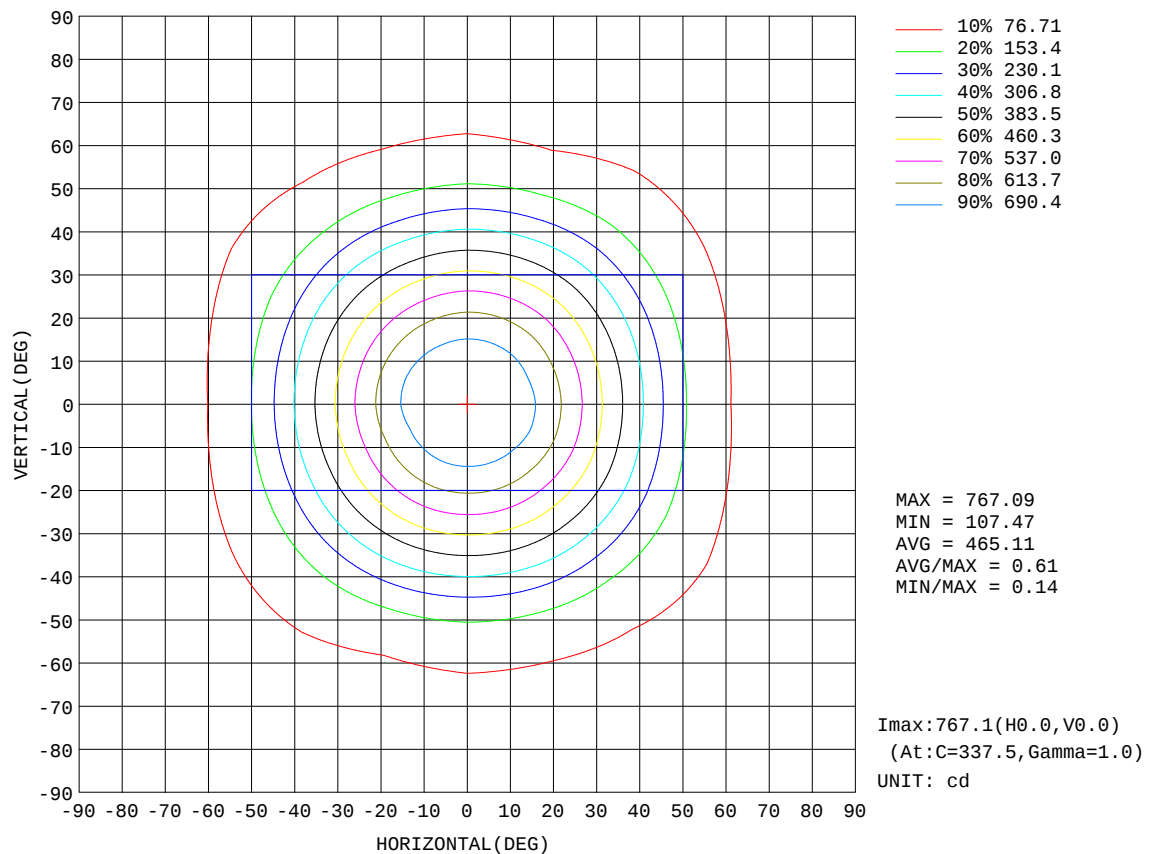
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	55	70	61	55	69	60	55	50
0.80	80	71	65	79	70	65	77	70	64	59
1.00	87	78	73	86	78	72	84	78	72	66
1.25	93	85	79	91	84	79	89	83	78	72
1.50	97	89	84	95	88	83	93	87	82	76
2.00	102	95	90	100	94	90	97	92	88	82
2.50	104	99	94	103	97	93	99	95	91	84
3.00	107	102	98	105	100	96	101	97	94	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	103	105	103	100	92
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: 2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:

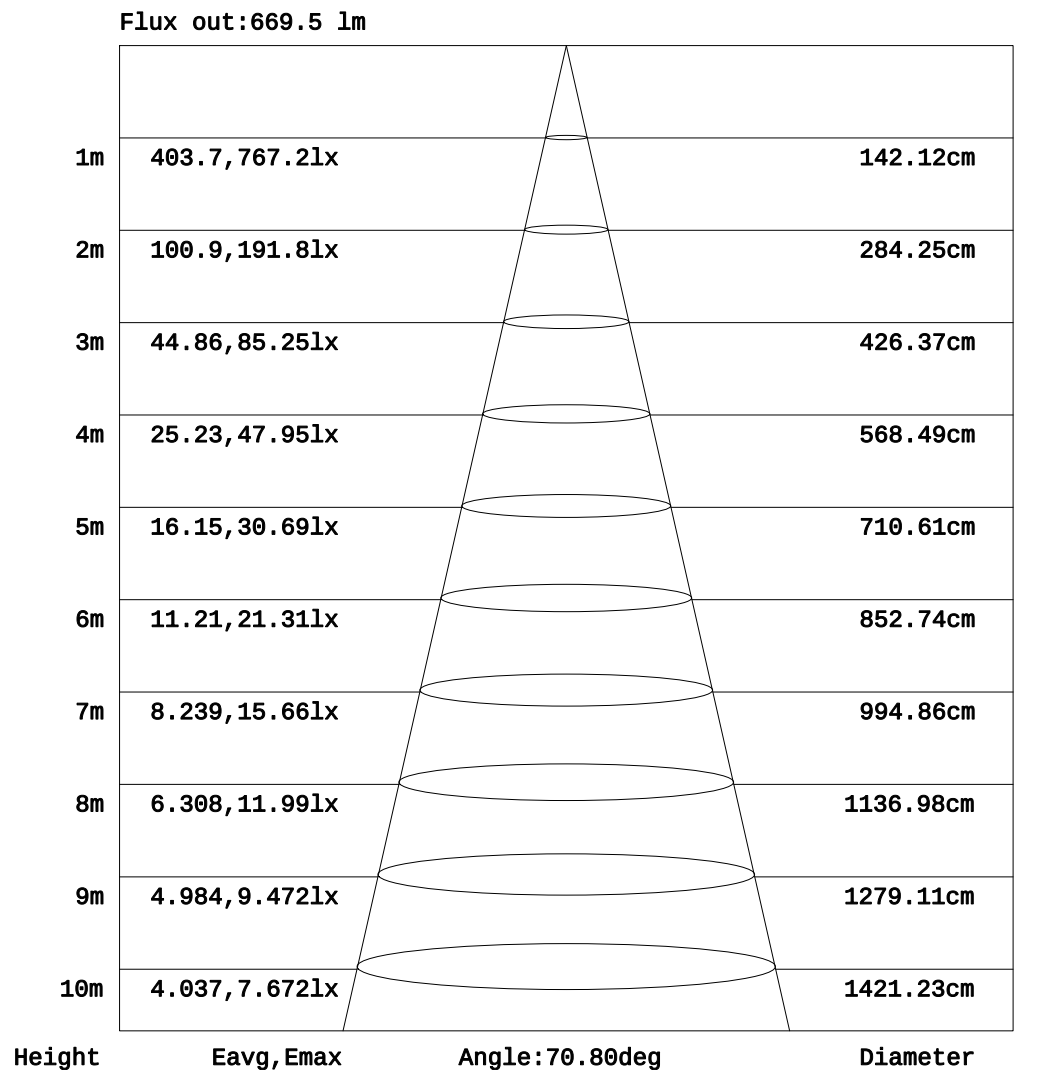


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:



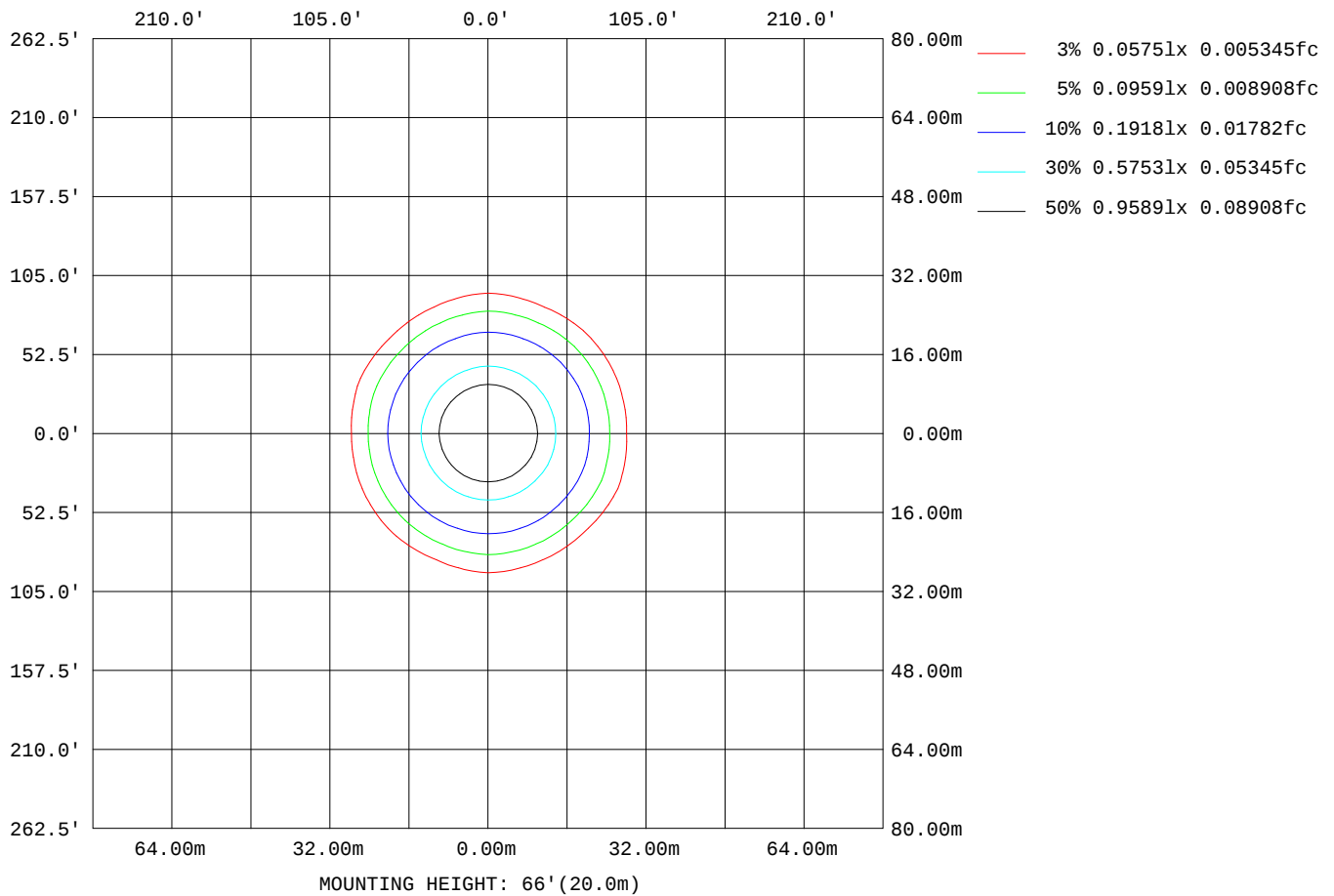
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-07-29

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:230.12V I:0.0540A P:11.381W PF:0.9157 Freq:49.99Hz Lamp Flux:1154.27x1 lm		
NAME: AL5009-WHTC15S02-TS	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 115mm	Shielding Angle:

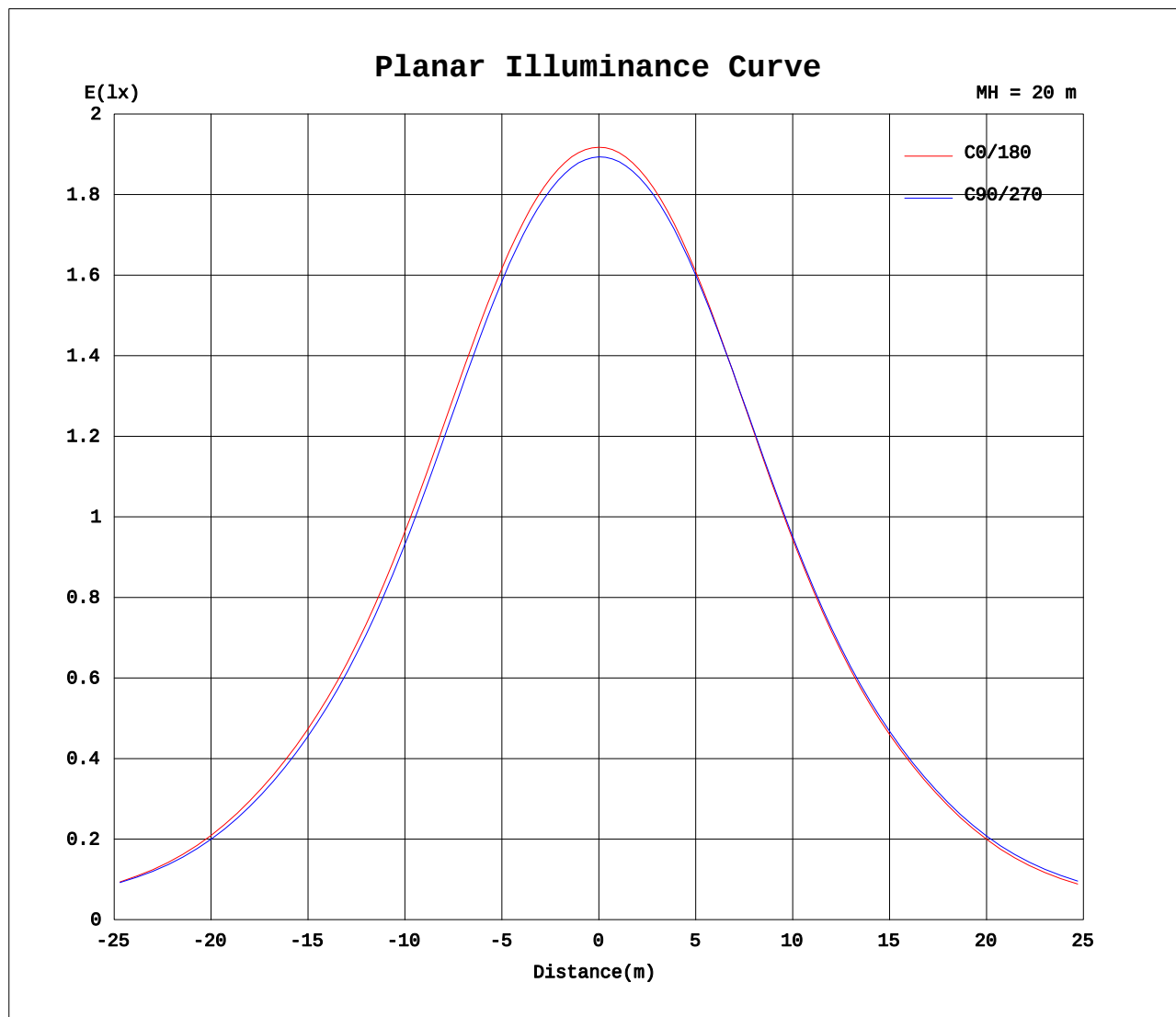
AvgL	cd/m2
L_0~180(65)av	13682
L_0~180(75)av	12379
L_0~180(85)av	8709
L_90~270(65)av	15317
L_90~270(75)av	13178
L_90~270(85)av	9646
L_45(65)av	14634
L_45(75)av	12902
L_45(85)av	9274

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-07-29

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: 2024-07-29

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:

```