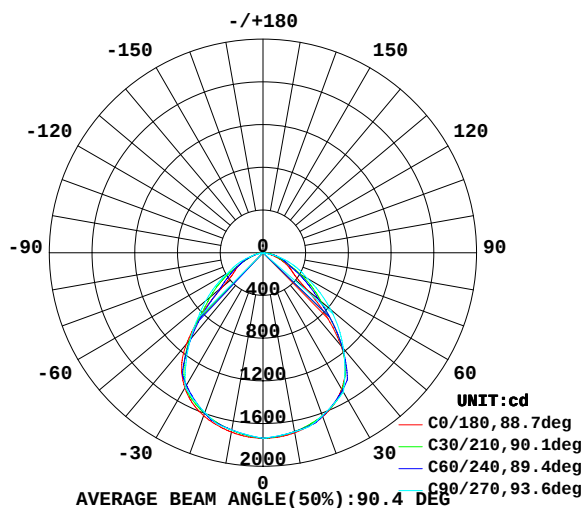


LUMINAIRE PHOTOMETRIC TEST REPORT

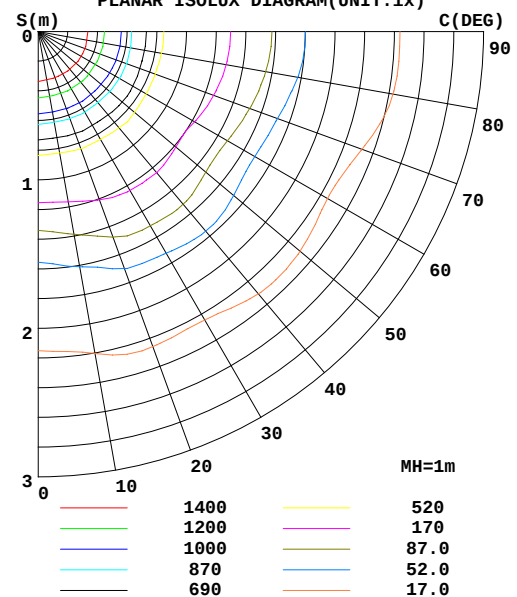
Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 100.33 lm/W			
MODEL		I _{max} (cd)	1737	S/MH(C0/180)	1.24
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	3671.4	η UP, DN(C0-180)	0.0, 51.8
NOMINAL FLUX(lm)	3671.45	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 48.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-08-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:7.500m [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
5	1731	1722	1720	1720	1728	1714	1711	1716	0- 5	41.27	41.27	1.12,1.12
10	1711	1700	1702	1696	1705	1685	1686	1689	5- 10	122.1	163.4	4.45,4.45
15	1678	1672	1685	1667	1670	1649	1660	1655	10- 15	199.3	362.6	9.88,9.88
20	1633	1637	1625	1633	1624	1608	1592	1615	15- 20	270.4	633.0	17.2,17.2
25	1568	1565	1565	1559	1557	1526	1524	1536	20- 25	331.7	964.7	26.3,26.3
30	1474	1473	1505	1463	1462	1423	1457	1437	25- 30	380.9	1346	36.7,36.7
35	1345	1362	1338	1349	1329	1301	1258	1316	30- 35	411.1	1757	47.8,47.8
40	1141	1211	1171	1188	1115	1129	1059	1146	35- 40	408.3	2165	59,59
45	844.3	945.2	1004	914.8	814.8	845.3	859.6	864.5	40- 45	366.5	2532	69,69
50	535.0	710.6	827.8	683.9	490.7	614.5	700.3	630.4	45- 50	302.0	2834	77.2,77.2
55	360.0	537.0	651.6	523.7	341.7	455.5	541.0	468.4	50- 55	243.9	3078	83.8,83.8
60	292.3	428.3	475.3	419.4	284.2	363.7	381.6	371.2	55- 60	196.4	3274	89.2,89.2
65	226.4	310.8	367.7	304.0	218.9	258.2	282.9	258.4	60- 65	150.8	3425	93.3,93.3
70	155.7	215.7	260.0	211.6	151.3	167.6	184.1	167.1	65- 70	112.9	3538	96.4,96.4
75	84.51	155.1	152.4	154.2	72.17	110.9	85.37	115.6	70- 75	79.18	3617	98.5,98.5
80	55.70	87.66	0	91.09	47.80	57.64	0	63.16	75- 80	44.69	3661	99.7,99.7
85	2.151	0	0	0	0.0642	0	0	0	80- 85	0.892	3671	100,100
90	0	0	0	0	0	0	0	0	85- 90	0.1078	3671	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

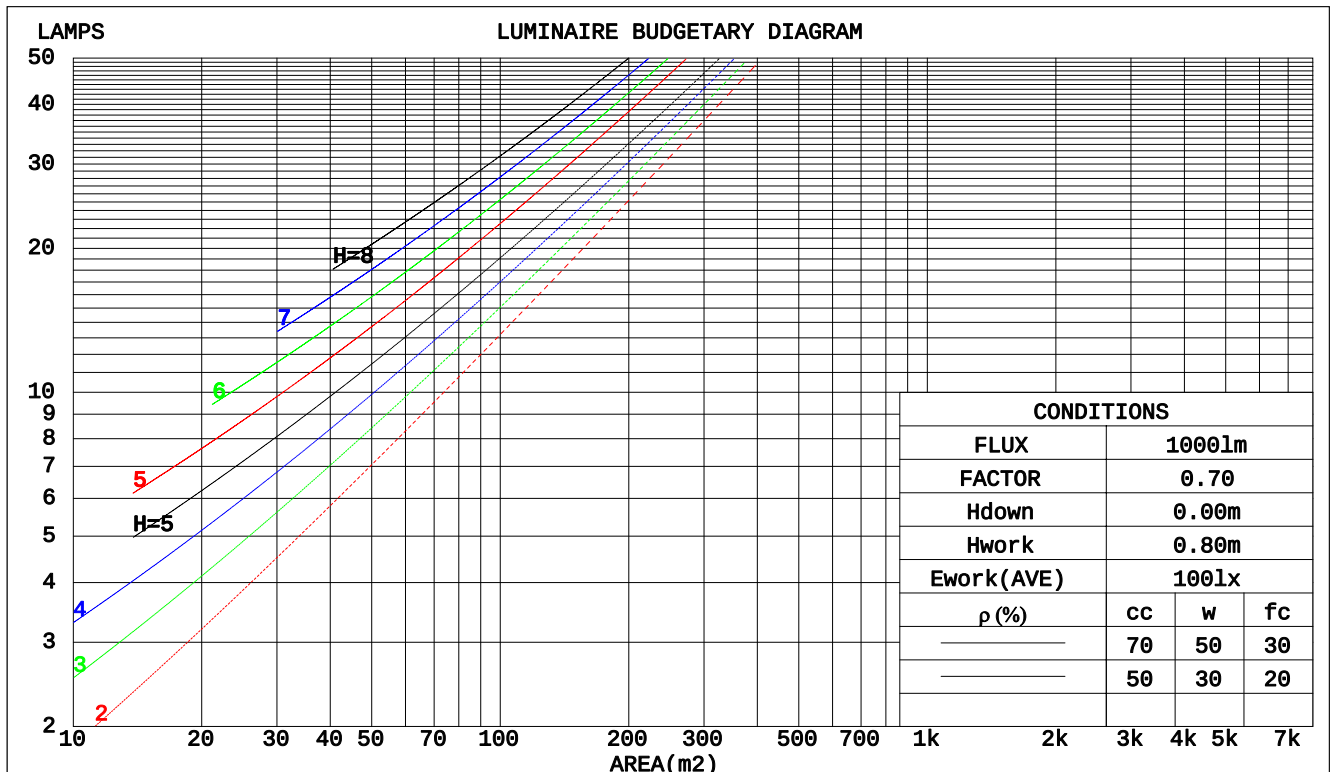
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION 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	1.03	1.00	1.05	1.01	.99	1.00	.98	.95	.97	.95	.93	.93	.91	.90	.88
2.0	.95	.89	.85	.93	.88	.84	.90	.86	.82	.87	.83	.80	.84	.81	.78	.76
3.0	.85	.78	.73	.84	.77	.72	.81	.75	.71	.78	.73	.70	.76	.72	.68	.66
4.0	.77	.69	.63	.75	.68	.63	.73	.67	.62	.71	.65	.61	.69	.64	.60	.58
5.0	.69	.61	.55	.68	.61	.55	.66	.60	.55	.64	.59	.54	.63	.58	.53	.52
6.0	.63	.55	.49	.62	.55	.49	.60	.54	.49	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.55	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.52	.45	.40	.51	.44	.39	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-08-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity:65.0%
 Test Distance:7.500m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm									
NAME: GLM-BPL6060A-36W(UGR19)					TYPE:LED			WEIGHT:	
SPEC.:					DIM.:			SERIAL No.:1	
MFR.:					SUR.:			PROTECTION 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	.253	.144	.046	.246	.140	.045	.233	.134	.043	.221	.128	.041	.210	.122	.039	
2.0	.245	.134	.041	.239	.132	.041	.228	.127	.039	.218	.122	.038	.208	.118	.037	
3.0	.232	.124	.037	.227	.122	.037	.217	.118	.036	.208	.114	.035	.199	.110	.034	
4.0	.218	.113	.033	.213	.112	.033	.205	.109	.032	.197	.106	.032	.189	.103	.031	
5.0	.205	.104	.030	.201	.103	.030	.193	.100	.030	.186	.098	.029	.179	.096	.029	
6.0	.192	.096	.028	.189	.095	.027	.182	.093	.027	.175	.091	.027	.169	.089	.026	
7.0	.181	.089	.025	.178	.088	.025	.171	.087	.025	.166	.085	.025	.160	.083	.024	
8.0	.170	.083	.023	.168	.082	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023	
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.021	.149	.075	.021	.144	.073	.021	
10.0	.152	.073	.020	.150	.072	.020	.146	.071	.020	.141	.070	.020	.137	.069	.020	

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	.176	.157	.139	.151	.134	.120	.103	.092	.083	.059	.054	.048	.019	.017	.016	
2.0	.166	.132	.104	.142	.114	.090	.097	.079	.062	.056	.046	.037	.018	.015	.012	
3.0	.157	.114	.080	.135	.098	.069	.093	.068	.048	.053	.040	.029	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.039	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.077	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.015	.015	.009	.005	
7.0	.129	.074	.036	.111	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.123	.068	.031	.106	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.101	.055	.023	.070	.039	.017	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm											
NAME: GLM-BPL6060A-36W(UGR19)						TYPE:LED			WEIGHT:		
SPEC.:						DIM.:			SERIAL No.:1		
MFR.:						SUR.:			PROTECTION 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		15.9	17.2	16.1	17.4	17.6	16.8	18.1	17.0	18.3	18.5
	3H	16.6	17.8	16.9	18.0	18.3	17.8	19.1	18.1	19.3	19.5
	4H	16.8	18.0	17.1	18.2	18.5	18.2	19.4	18.5	19.6	19.9
	6H	16.9	18.0	17.2	18.2	18.5	18.2	19.3	18.6	19.6	19.9
	8H	16.9	17.9	17.2	18.2	18.5	18.2	19.2	18.5	19.5	19.8
	12H	16.8	17.9	17.2	18.1	18.4	18.1	19.2	18.5	19.4	19.7
4H	2H	16.3	17.4	16.6	17.7	17.9	17.0	18.2	17.3	18.5	18.7
	3H	17.2	18.2	17.5	18.5	18.8	18.2	19.2	18.6	19.5	19.8
	4H	17.6	18.5	17.9	18.8	19.1	18.8	19.7	19.1	20.0	20.3
	6H	17.8	18.6	18.2	18.9	19.3	18.8	19.6	19.2	20.0	20.3
	8H	17.8	18.5	18.2	18.9	19.3	18.8	19.5	19.2	19.9	20.3
	12H	17.8	18.4	18.2	18.8	19.2	18.7	19.4	19.2	19.8	20.2
8H	4H	17.8	18.5	18.2	18.9	19.3	18.9	19.6	19.3	20.0	20.4
	6H	18.2	18.8	18.6	19.2	19.6	19.0	19.6	19.4	20.0	20.4
	8H	18.3	18.8	18.7	19.2	19.7	18.9	19.5	19.4	19.9	20.4
	12H	18.3	18.7	18.7	19.2	19.6	18.9	19.4	19.4	19.8	20.3
12H	4H	17.8	18.4	18.2	18.8	19.2	18.9	19.6	19.3	19.9	20.3
	6H	18.2	18.7	18.6	19.2	19.6	19.0	19.5	19.4	20.0	20.4
	8H	18.3	18.7	18.8	19.2	19.7	18.9	19.4	19.4	19.9	20.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.6 / - 0.7					+ 0.4 / - 0.5					
1.5H	+ 0.3 / - 1.1					+ 0.3 / - 0.5					
2.0H	+ 0.7 / - 1.4					+ 1.0 / - 1.2					

CIE Pub.117 Corrected 3671 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.5)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION 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) x RCR = 5									
k = 0.60	66	56	50	65	55	50	64	55	49	44
0.80	76	66	60	75	65	59	73	65	59	53
1.00	84	74	68	83	74	68	80	75	67	61
1.25	90	81	76	89	81	75	86	79	74	68
1.50	94	86	81	93	86	80	90	84	79	73
2.00	100	93	88	98	92	87	95	90	86	79
2.50	103	97	92	101	96	91	98	93	89	82
3.00	106	100	96	104	99	95	100	96	93	85
4.00	109	105	101	107	103	100	103	100	97	89
5.00	111	107	104	109	105	102	104	102	99	91
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNOM = 1.25										

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

2531.6 lm

%lum = 69.0%

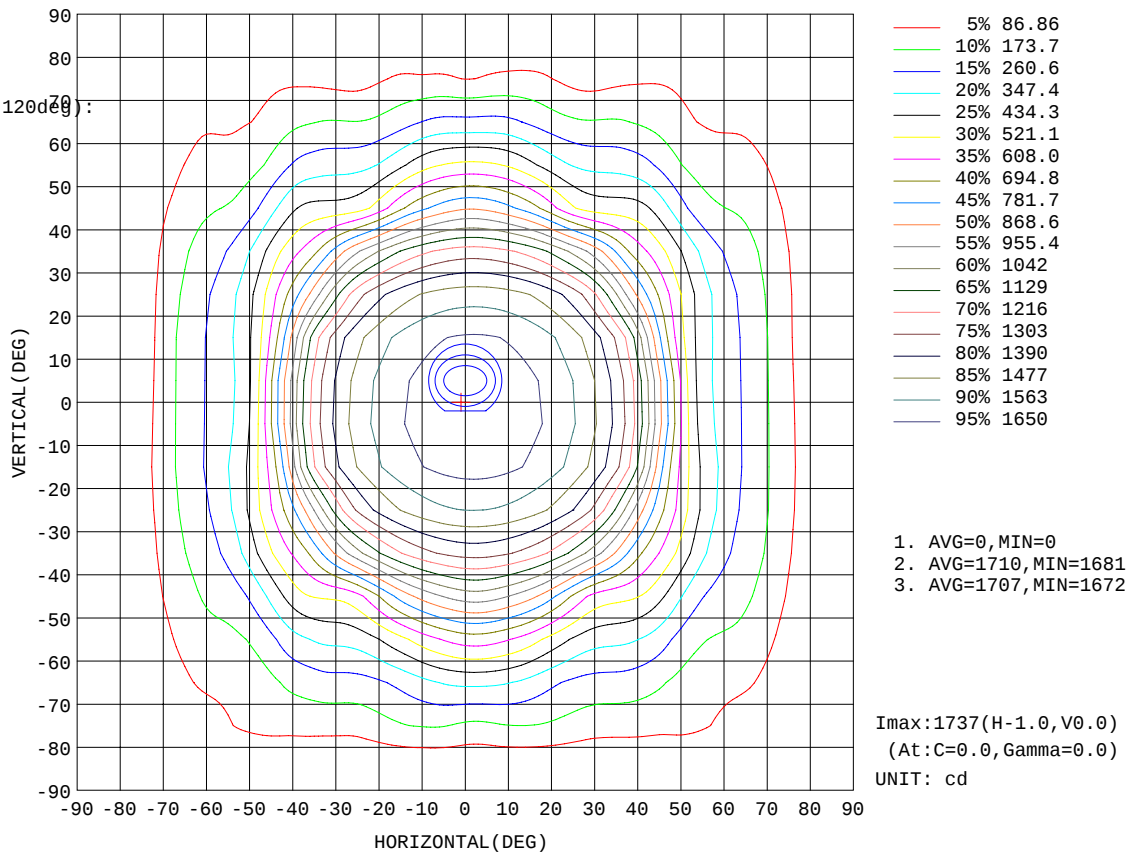
%lamp = 69.0%

Conical surface Flux(120deg):

3273.9 lm

%lum = 89.2%

%lamp = 89.2%

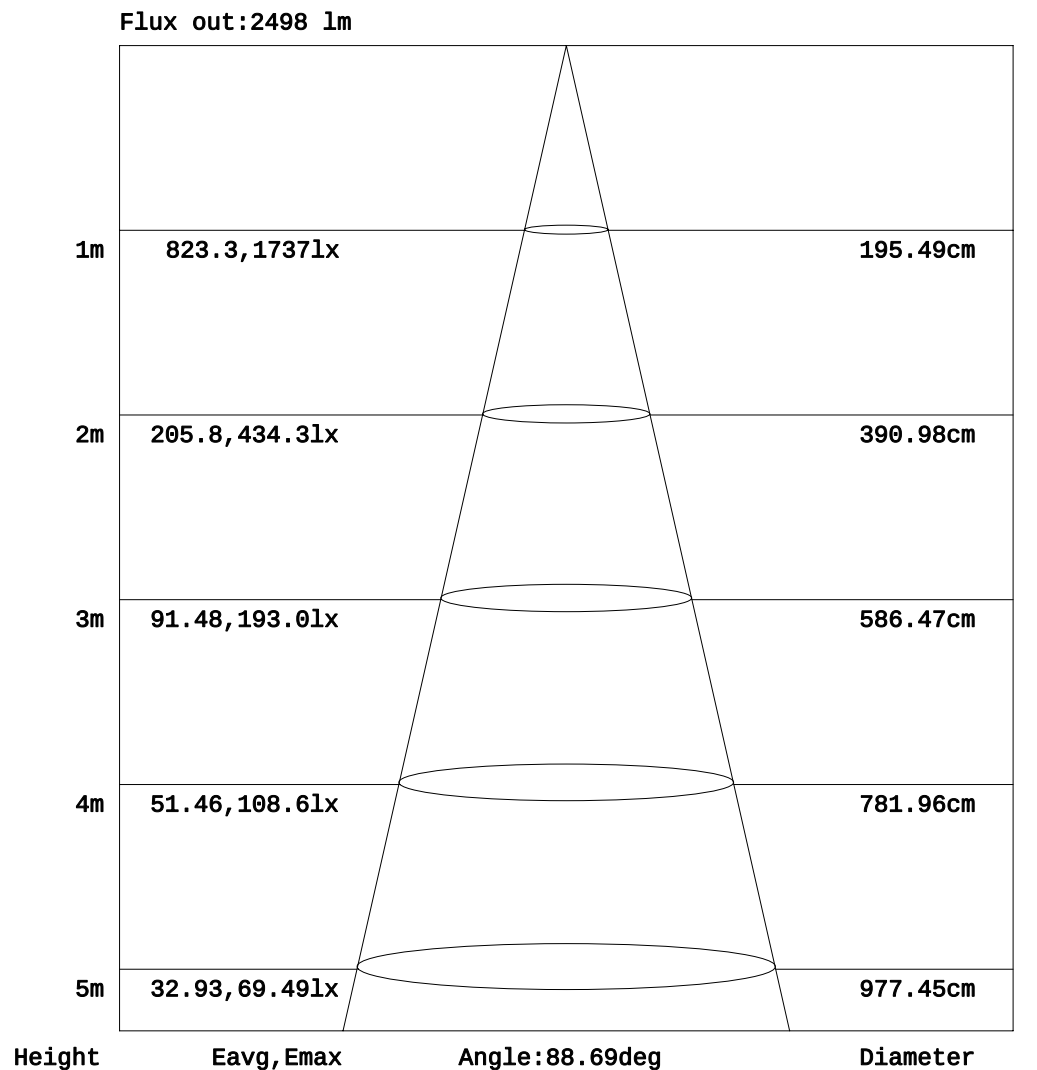


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

AAI Figure

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



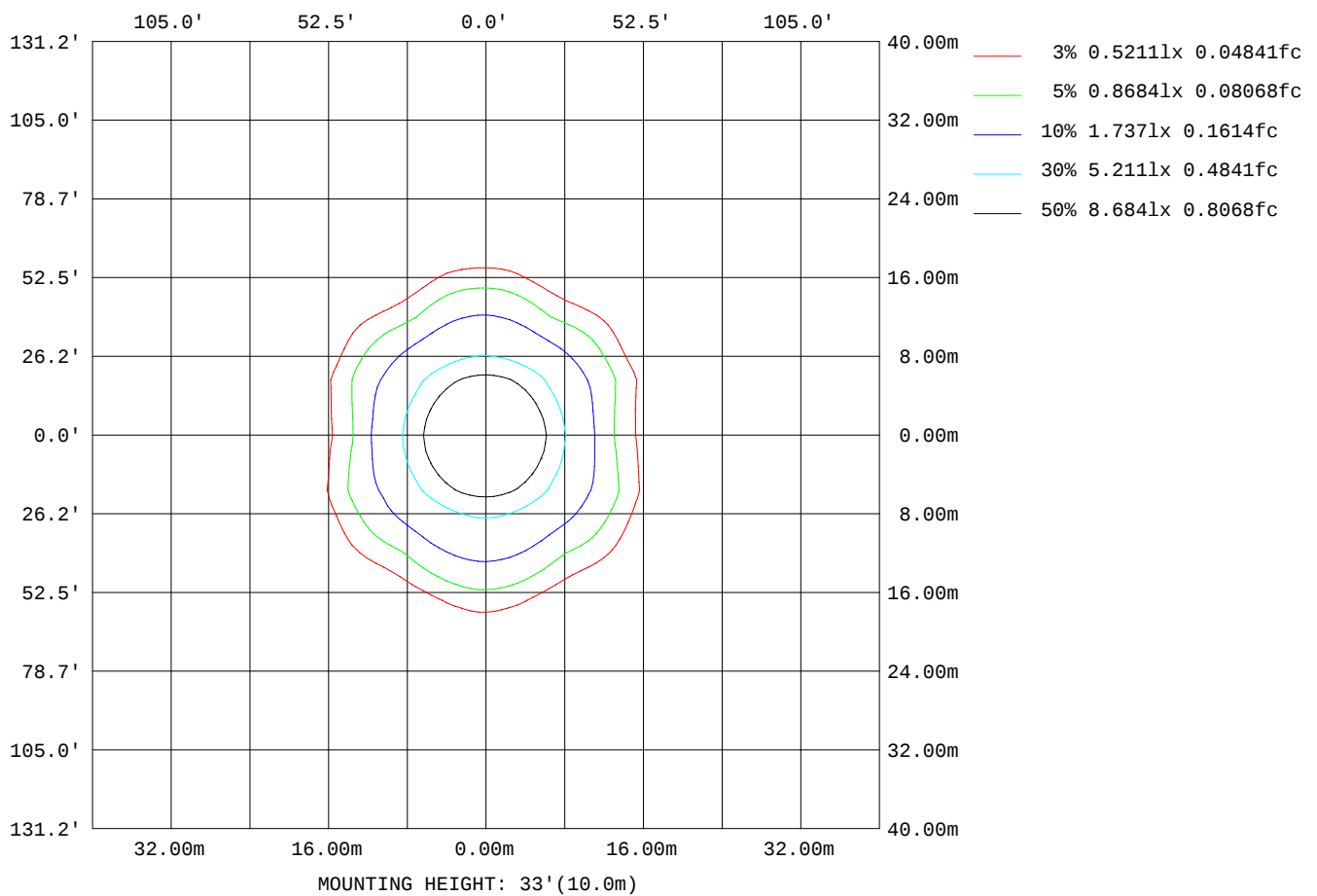
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-08-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.290
 Humidity: 65.0%
 Test Distance: 7.500m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:223.3V I:0.1693A P:36.59W PF:0.9678 Lamp Flux:3671.45x1 lm		
NAME: GLM-BPL6060A-36W(UGR19)	TYPE: LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	PROTECTION ANGLE:

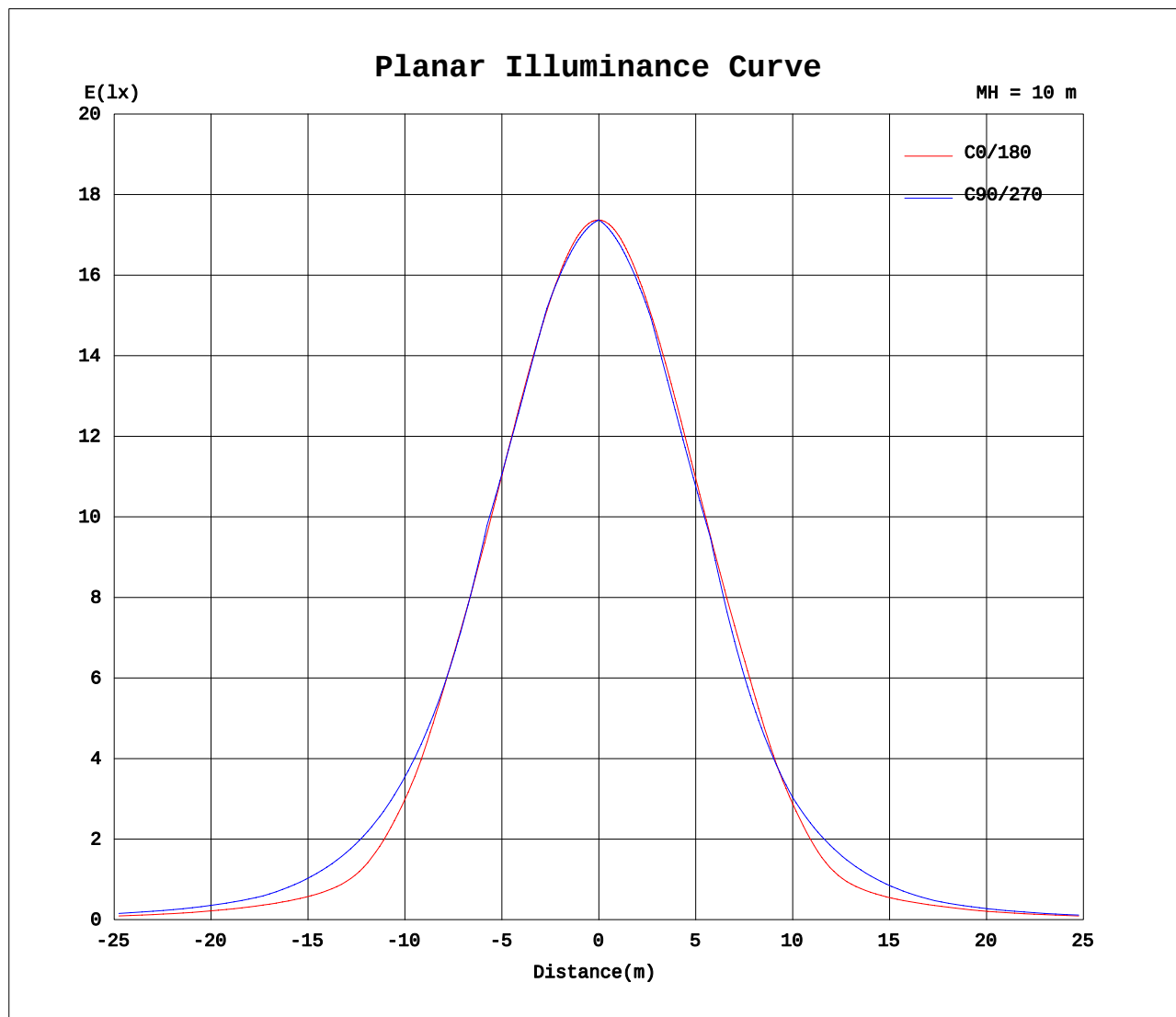
AvgL	cd/m2
L_0~180(65)av	1710
L_0~180(75)av	983
L_0~180(85)av	41
L_90~270(65)av	2499
L_90~270(75)av	1491
L_90~270(85)av	0
L_45(65)av	2173
L_45(75)av	1680
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-08-06

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity:65.0%
Test Distance:7.500m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-08-06

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.290
Humidity: 65.0%
Test Distance: 7.500m [K=1.0000]
Remarks:

