

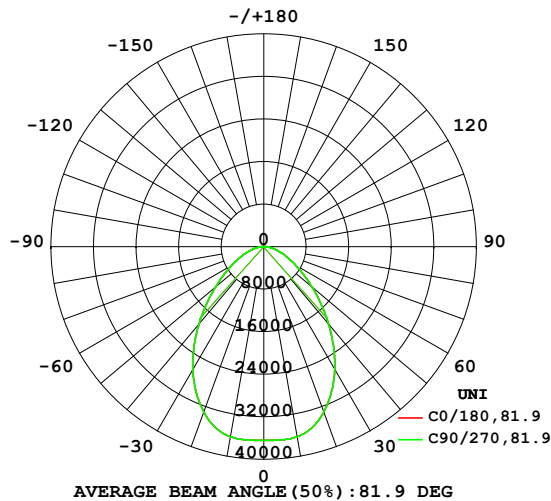
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

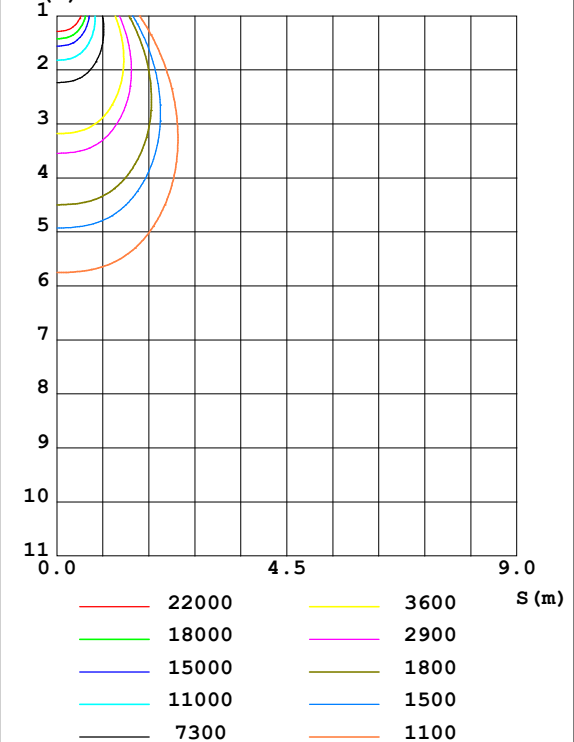
Test:U:229.4V I:2.104A P:478.0W PF:0.9905 Freq:50.01Hz UTHDi:0% ITHDi:0% Lamp Flux:69715.1x1 lm		
NAME: LHB09-480-5070-L04502	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 145.85 lm/W			
MODEL	/	I _{max} (cd)	36490	S/MH (C0/180)	1.12
NOMINAL POWER(W)	480	LOR(%)	100.0	S/MH (C90/270)	1.12
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	69715	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	69715.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.15

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4574]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3629	3629	3629	3629	3629	3629	3629	3629	0- 10	3478	3478	4.99,4.99
20	3306	3306	3306	3306	3306	3306	3306	3306	10- 20	9881	13359	19.2,19.2
30	2672	2672	2672	2672	2672	2672	2672	2672	20- 30	13825	27183	39,39
40	1895	1895	1895	1895	1895	1895	1895	1895	30- 40	14263	41446	59.5,59.5
50	1190	1190	1190	1190	1190	1190	1190	1190	40- 50	11766	53212	76.3,76.3
60	683.7	683.7	683.7	683.7	683.7	683.7	683.7	683.7	50- 60	8204	61416	88.1,88.1
70	363.1	363.1	363.1	363.1	363.1	363.1	363.1	363.1	60- 70	5050	66466	95.3,95.3
80	143.0	143.0	143.0	143.0	143.0	143.0	143.0	143.0	70- 80	2615	69080	99.1,99.1
90	0.5764	0.5764	0.5764	0.5764	0.5764	0.5764	0.5764	0.5764	80- 90	634.6	69715	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 47755 lm

%lum = 68.5%

%lamp = 68.5%

Conical surface Flux(120deg): 61416 lm

%lum = 88.1%

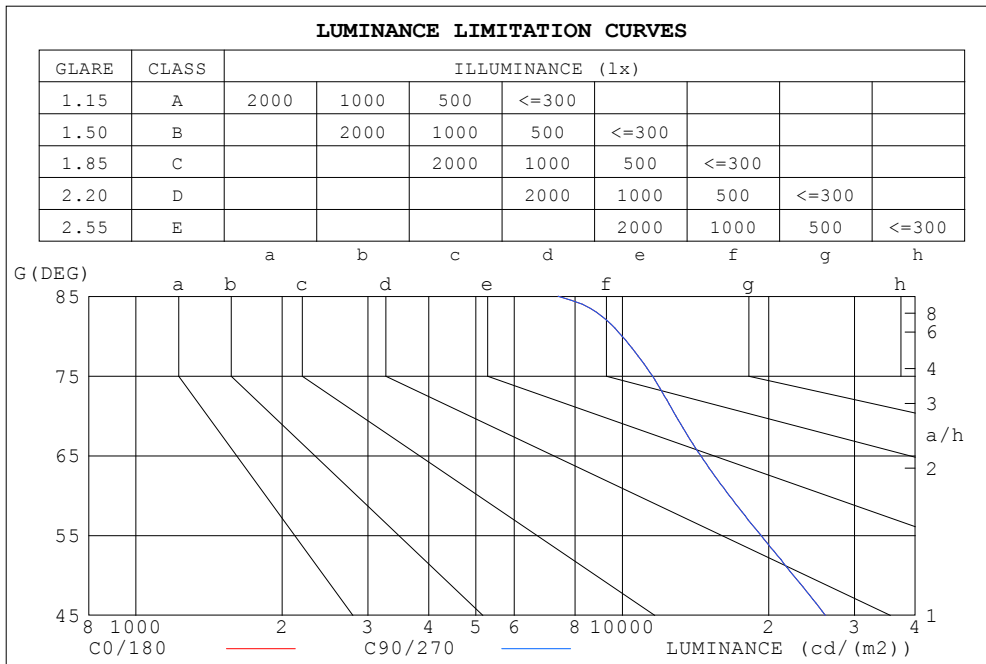
%lamp = 88.1%

C Range: 0 - 360DEG
C Interval: 15.0DEG
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Operators:LYJ
Test Date:2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4574]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	7383	7383
80	9997	9997
75	11534	11534
70	12893	12893
65	14500	14500
60	16605	16605
55	19277	19277
50	22477	22477
45	26148	26148

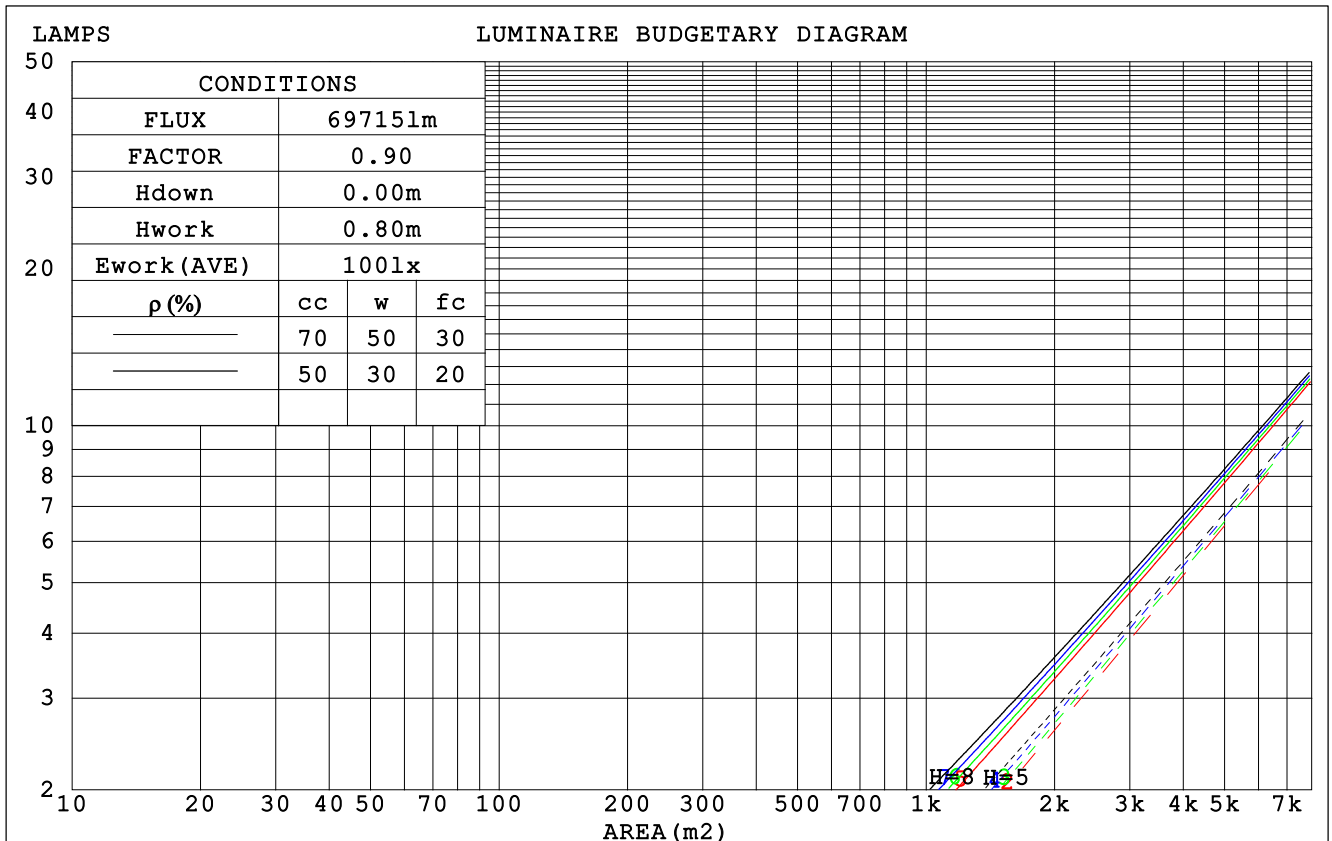
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LYJ
 Test Date: 2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4574]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.00
1.0	1.07	1.03	.00	1.04	1.01	.98	1.00	.97	.95	.96	.94	.92	.93	.91	.89	.87
2.0	.95	.89	.84	.93	.88	.83	.90	.85	.81	.87	.83	.80	.84	.81	.78	.76
3.0	.85	.78	.72	.84	.77	.72	.81	.75	.71	.78	.73	.69	.76	.72	.68	.66
4.0	.77	.69	.63	.76	.68	.63	.73	.67	.62	.71	.66	.61	.69	.64	.60	.58
5.0	.70	.62	.56	.69	.61	.55	.67	.60	.55	.65	.59	.54	.63	.58	.54	.52
6.0	.64	.56	.50	.63	.55	.50	.61	.54	.49	.59	.53	.49	.58	.53	.48	.46
7.0	.58	.50	.45	.57	.50	.45	.56	.49	.44	.55	.49	.44	.53	.48	.44	.42
8.0	.54	.46	.41	.53	.46	.40	.52	.45	.40	.51	.44	.40	.49	.44	.40	.38
9.0	.50	.42	.37	.49	.42	.37	.48	.41	.37	.47	.41	.37	.46	.40	.36	.35
10.0	.46	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.43	.37	.33	.32



C Range: 0 - 360DEG
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 Operators: LYJ
 Test Date: 2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4574]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

pcc	80%			70%			50%			30%			10%			0														
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0														
pfc	20%			20%			20%			20%			20%			0														
RCR	RCR:Room Cavity Ratio															Wall Exitance Coefficients(WEC)														
0.0																														
1.0	.259	.147	.047	.252	.144	.046	.239	.137	.044	.227	.131	.042	.216	.125	.040															
2.0	.248	.136	.042	.242	.133	.041	.230	.128	.040	.220	.123	.039	.210	.119	.037															
3.0	.233	.124	.037	.227	.122	.037	.217	.118	.036	.208	.114	.035	.200	.111	.034															
4.0	.218	.113	.033	.213	.111	.033	.204	.108	.032	.196	.105	.032	.189	.102	.031															
5.0	.204	.104	.030	.200	.102	.030	.192	.100	.029	.185	.097	.029	.178	.095	.029															
6.0	.191	.096	.027	.187	.095	.027	.180	.092	.027	.174	.090	.027	.168	.088	.026															
7.0	.179	.089	.025	.176	.088	.025	.170	.086	.025	.164	.084	.024	.159	.082	.024															
8.0	.169	.082	.023	.166	.082	.023	.160	.080	.023	.155	.079	.023	.150	.077	.022															
9.0	.159	.077	.022	.157	.076	.021	.152	.075	.021	.147	.074	.021	.143	.073	.021															
10.0	.151	.072	.020	.148	.072	.020	.144	.071	.020	.140	.069	.020	.136	.068	.020															

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	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	.177	.157	.138	.151	.134	.119	.103	.092	.082	.060	.054	.048	.019	.017	.015		
2.0	.166	.132	.103	.142	.114	.089	.098	.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	.048	.032	.019	.016	.010	.006		
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.016	.015	.009	.005		
7.0	.128	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004		
8.0	.122	.068	.031	.105	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004		
9.0	.116	.063	.027	.100	.055	.023	.069	.038	.017	.040	.023	.010	.013	.007	.003		
10.0	.111	.059	.024	.096	.051	.021	.066	.036	.015	.039	.021	.009	.013	.007	.003		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4574]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

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	21.1	22.5	21.5	22.9	23.2	21.1	22.5	21.5	22.9	23.2
3H	22.4	23.7	22.7	24.0	24.4	22.4	23.7	22.7	24.0	24.4
4H	22.8	24.1	23.2	24.4	24.8	22.8	24.1	23.2	24.4	24.8
6H	23.2	24.3	23.6	24.7	25.1	23.2	24.3	23.6	24.7	25.1
8H	23.3	24.3	23.7	24.7	25.1	23.3	24.3	23.7	24.7	25.1
12H	23.3	24.3	23.8	24.7	25.1	23.3	24.3	23.8	24.7	25.1
4H 2H	21.5	22.7	21.9	23.1	23.5	21.5	22.7	21.9	23.1	23.5
3H	23.0	24.0	23.4	24.4	24.8	23.0	24.0	23.4	24.4	24.8
4H	23.6	24.5	24.0	24.9	25.4	23.6	24.5	24.0	24.9	25.4
6H	24.1	24.8	24.5	25.3	25.7	24.1	24.8	24.5	25.3	25.7
8H	24.2	24.9	24.7	25.4	25.8	24.2	24.9	24.7	25.4	25.8
12H	24.3	24.9	24.8	25.4	25.9	24.3	24.9	24.8	25.4	25.9
8H 4H	23.8	24.5	24.3	25.0	25.5	23.8	24.5	24.3	25.0	25.5
6H	24.4	25.0	24.9	25.5	25.9	24.4	25.0	24.9	25.5	25.9
8H	24.6	25.1	25.1	25.6	26.1	24.6	25.1	25.1	25.6	26.1
12H	24.7	25.2	25.2	25.7	26.2	24.7	25.2	25.2	25.7	26.2
12H 4H	23.8	24.5	24.3	24.9	25.4	23.8	24.5	24.3	24.9	25.4
6H	24.4	24.9	24.9	25.4	25.9	24.4	24.9	24.9	25.4	25.9
8H	24.6	25.1	25.1	25.6	26.2	24.6	25.1	25.1	25.6	26.2
CIE190: 2010										

CIE190: 2010
Area: 0.3315 m2

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Operators:LYJ
Test Date:2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4574]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

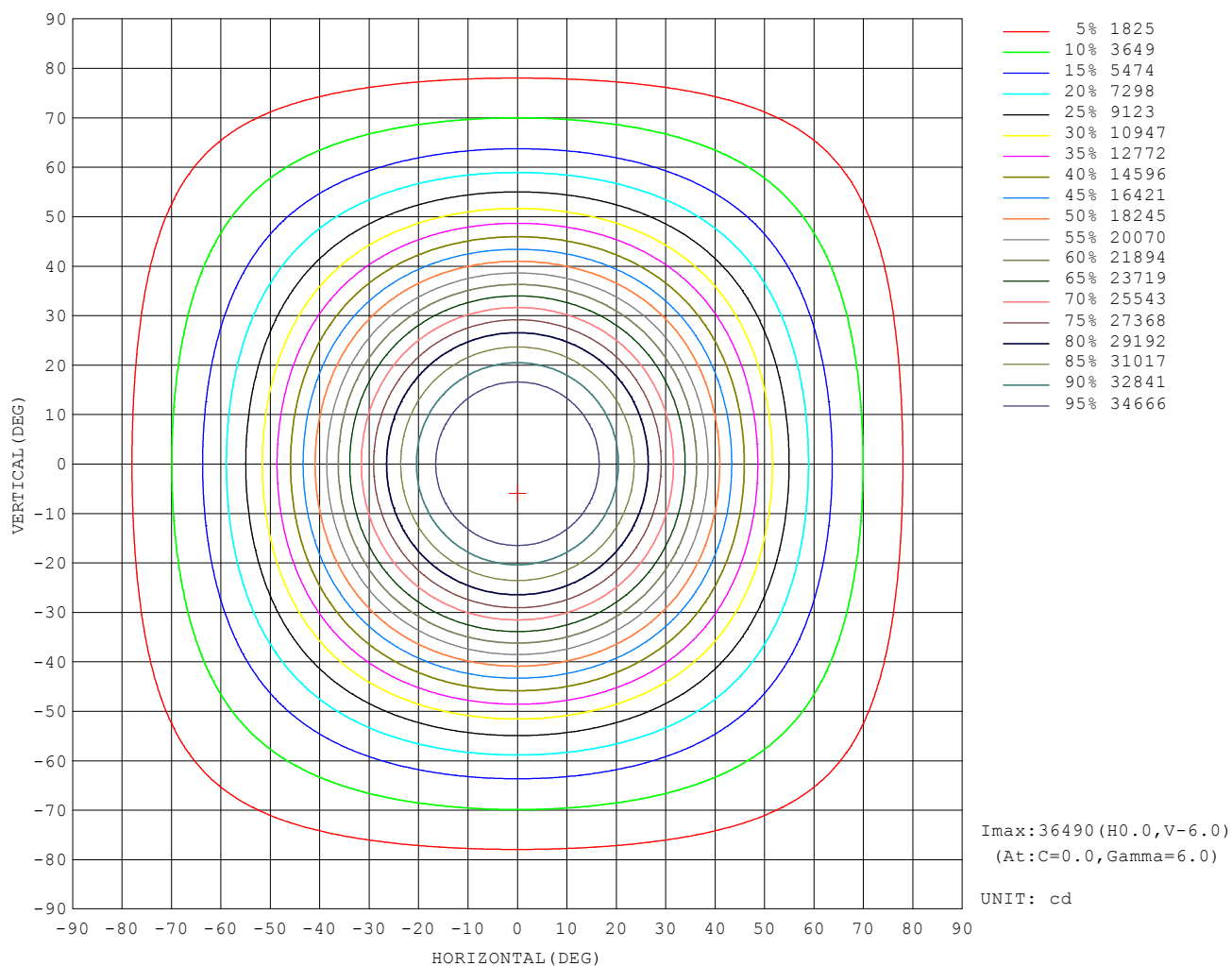
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	66	56	50	65	55	50	44
0.80	76	66	60	75	66	60	73	65	59	53
1.00	84	74	68	83	74	68	80	75	67	61
1.25	90	81	75	89	81	75	86	79	74	68
1.50	94	86	80	93	85	80	90	84	79	72
2.00	100	93	88	98	92	87	95	90	85	78
2.50	103	97	92	101	95	91	98	93	89	81
3.00	106	100	96	104	99	95	100	96	92	85
4.00	109	104	101	107	103	99	103	99	96	88
5.00	111	107	104	109	105	102	104	101	99	90
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4574]
 Remarks:

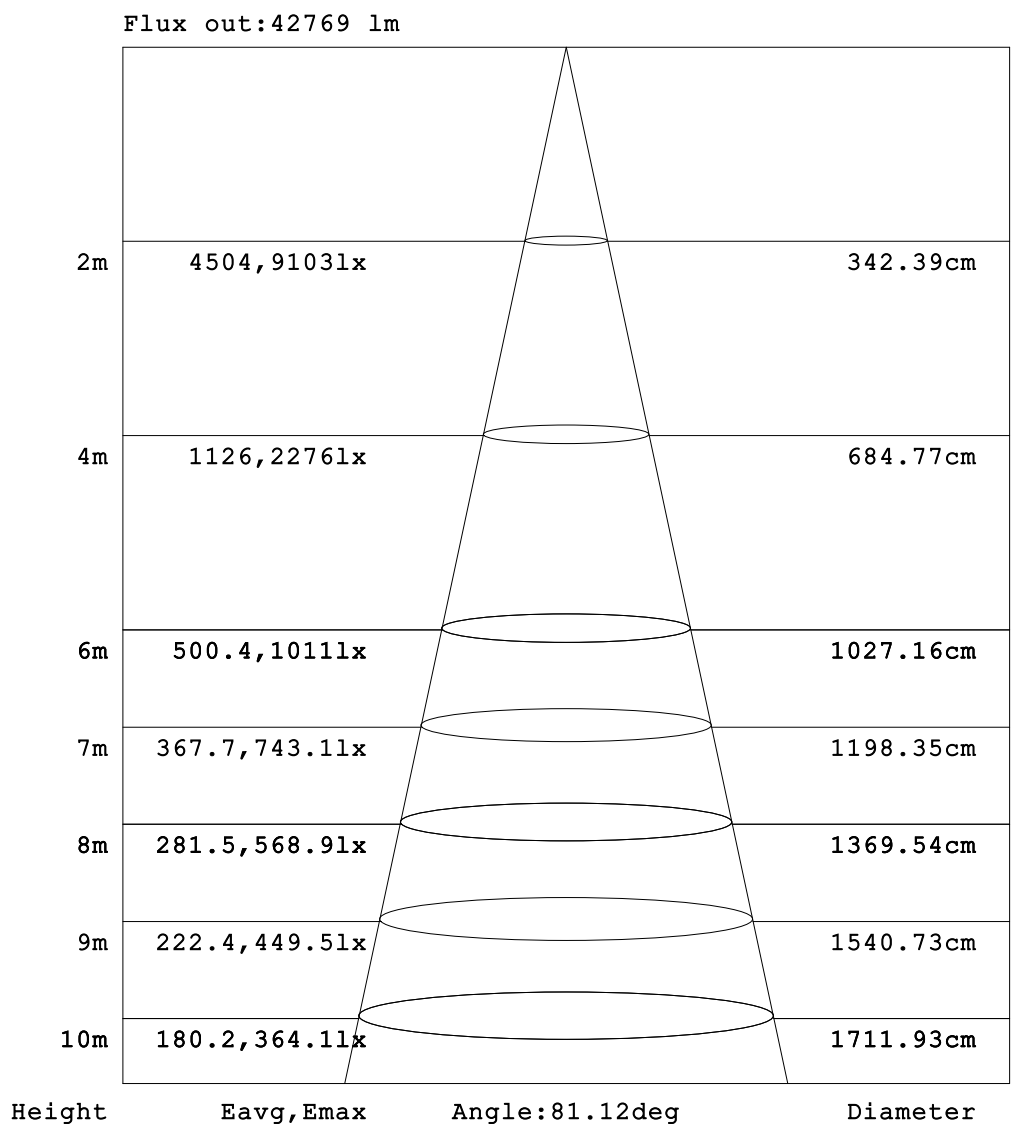
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4574]
Remarks:

AAI Figure

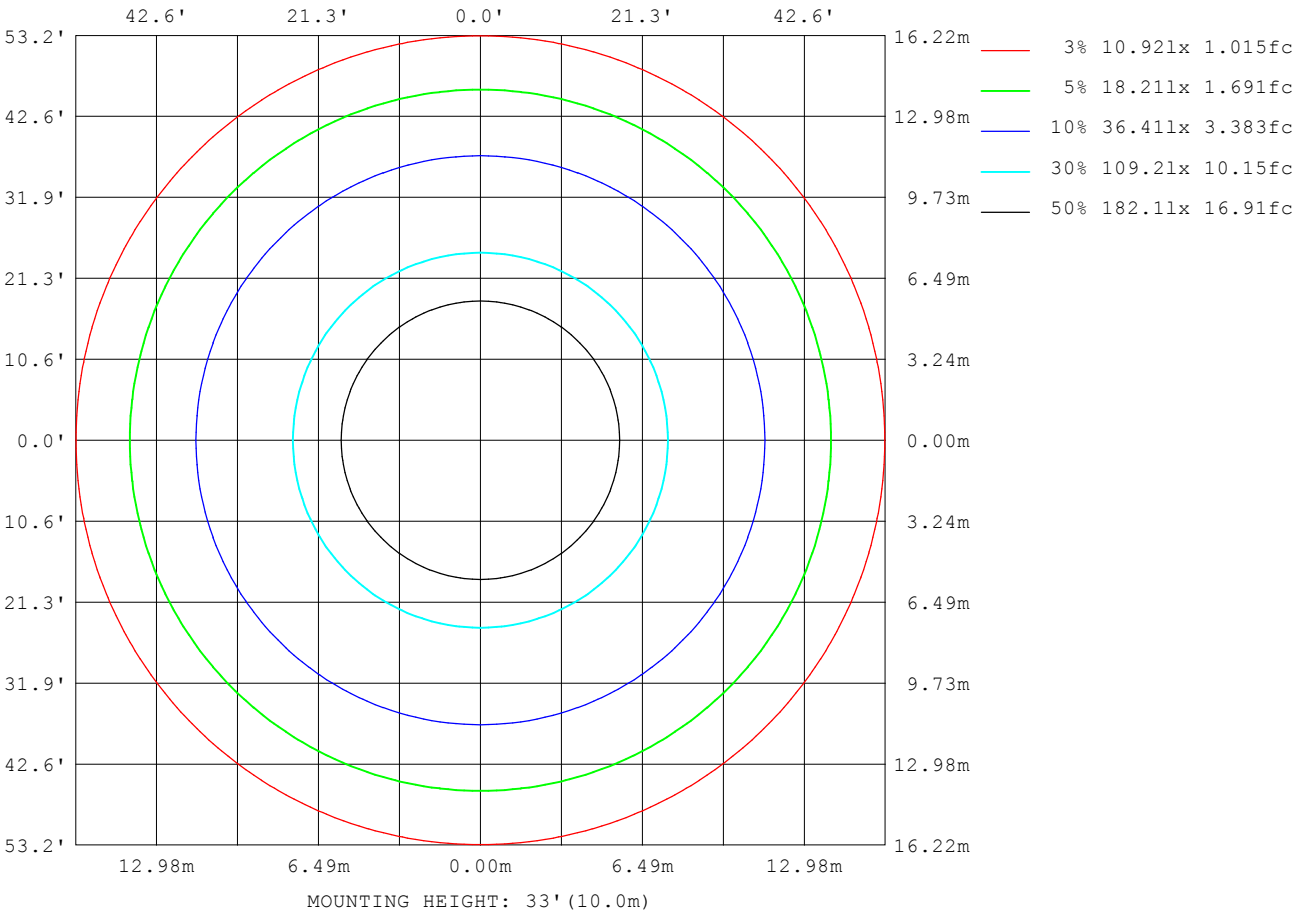


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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C Interval: 15.0DEG
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Operators: LYJ
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γ Range: 0 - 90DEG
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Humidity: 65.0%
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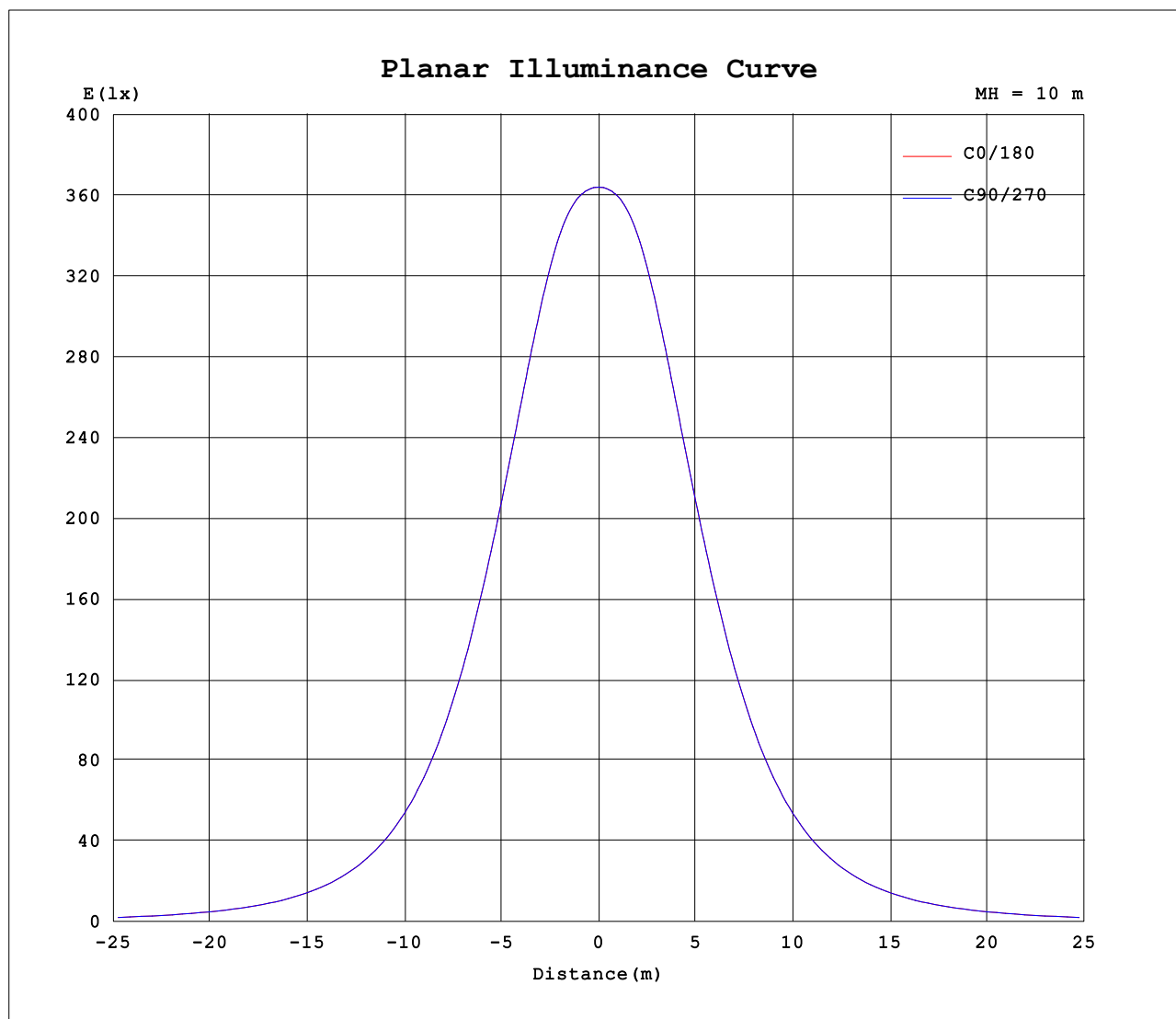
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4574]
Remarks:

Planar Illuminance Curve



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Temperature: 25.3DEG
Operators: LYJ
Test Date: 2020-08-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4574]
Remarks: