

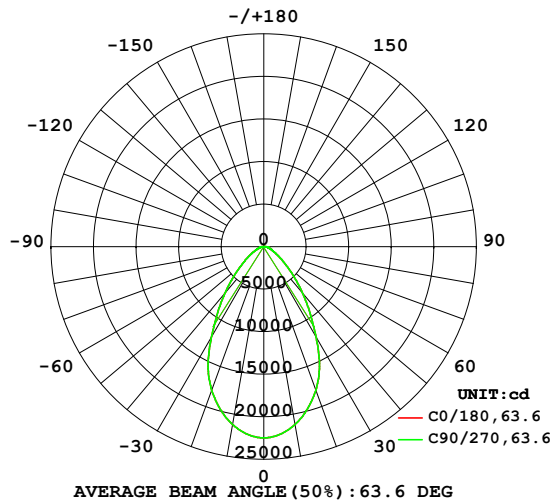
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

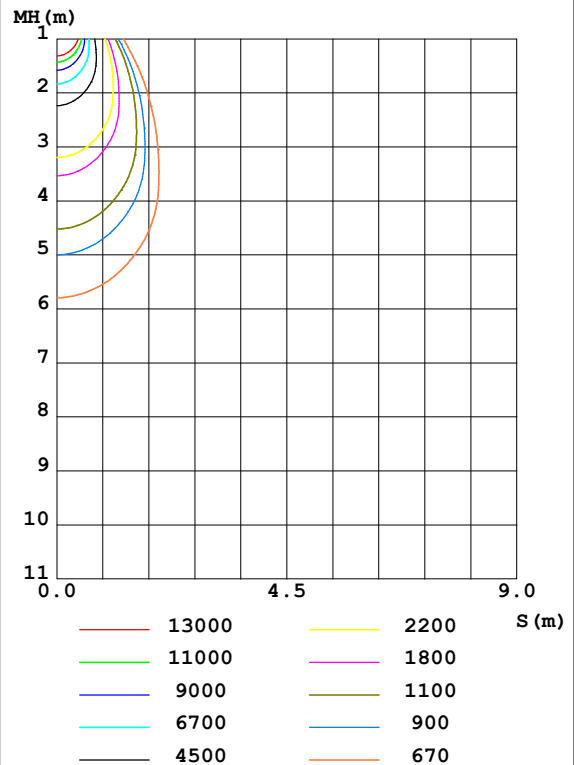
Test:U:229.8V I:0.8654A P:195.86W PF:0.9848 Freq:50.00Hz Lamp Flux:28768.6x1 lm		
NAME: HB44-200-5080-H00111	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 146.88 lm/W			
MODEL	/	I _{max} (cd)	22481	S/MH(C0/180)	0.95
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.95
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	28769	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	28768.6	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)	/	η down(%)	100.0	CIBSE SHR MAX	1.00

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:LTF
Test Date:2020-06-21

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.432m [K=1.0000]
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	2122	2122	2122	2122	2122	2122	2122	2122	0- 10	2083	2083	7.24,7.24
20	1794	1794	1794	1794	1794	1794	1794	1794	10- 20	5539	7623	26.5,26.5
30	1236	1236	1236	1236	1236	1236	1236	1236	20- 30	7035	14658	51,51
40	704.7	704.7	704.7	704.7	704.7	704.7	704.7	704.7	30- 40	5931	20589	71.6,71.6
50	352.6	352.6	352.6	352.6	352.6	352.6	352.6	352.6	40- 50	3949	24538	85.3,85.3
60	166.3	166.3	166.3	166.3	166.3	166.3	166.3	166.3	50- 60	2209	26746	93,93
70	81.64	81.64	81.64	81.64	81.64	81.64	81.64	81.64	60- 70	1164	27911	97,97
80	46.19	46.19	46.19	46.19	46.19	46.19	46.19	46.19	70- 80	625.1	28536	99.2,99.2
90	0.8976	0.8976	0.8976	0.8976	0.8976	0.8976	0.8976	0.8976	80- 90	233.0	28769	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:X10cd									UNIT:lm		

Conical surface Flux(90deg): 22819 lm

%lum = 79.3%

%lamp = 79.3%

Conical surface Flux(120deg): 26746 lm

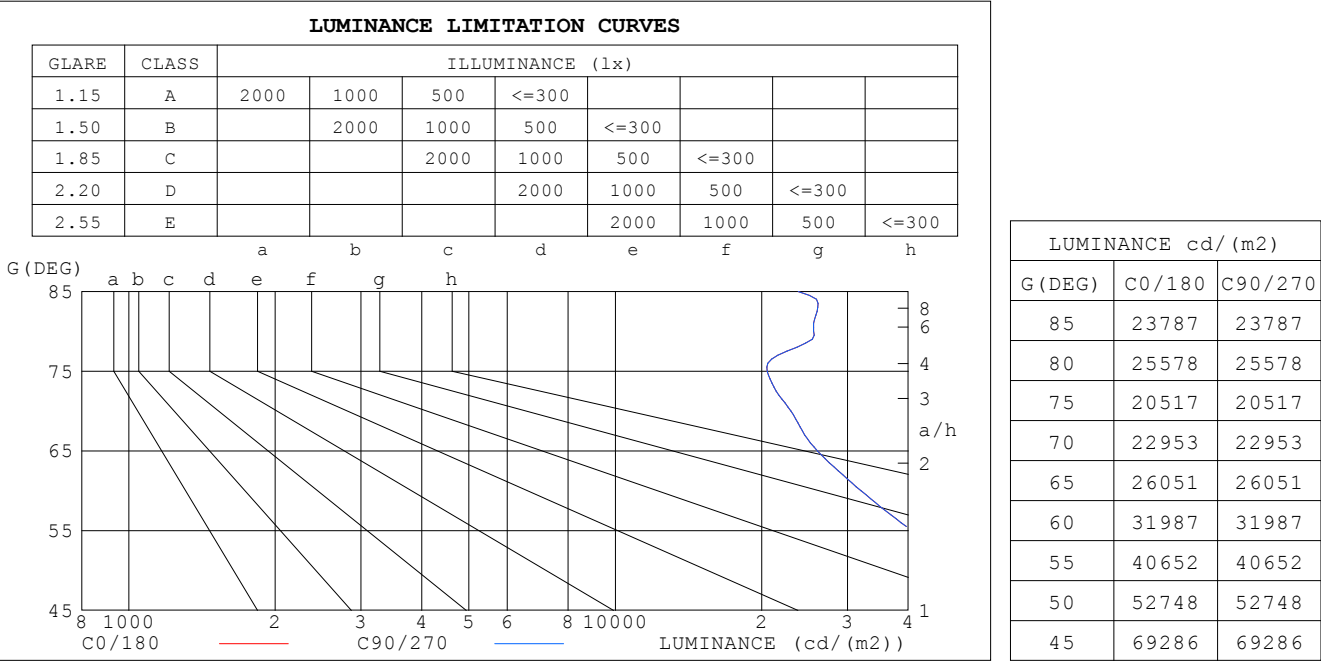
%lum = 93.0%

%lamp = 93.0%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LTF
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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.432m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES



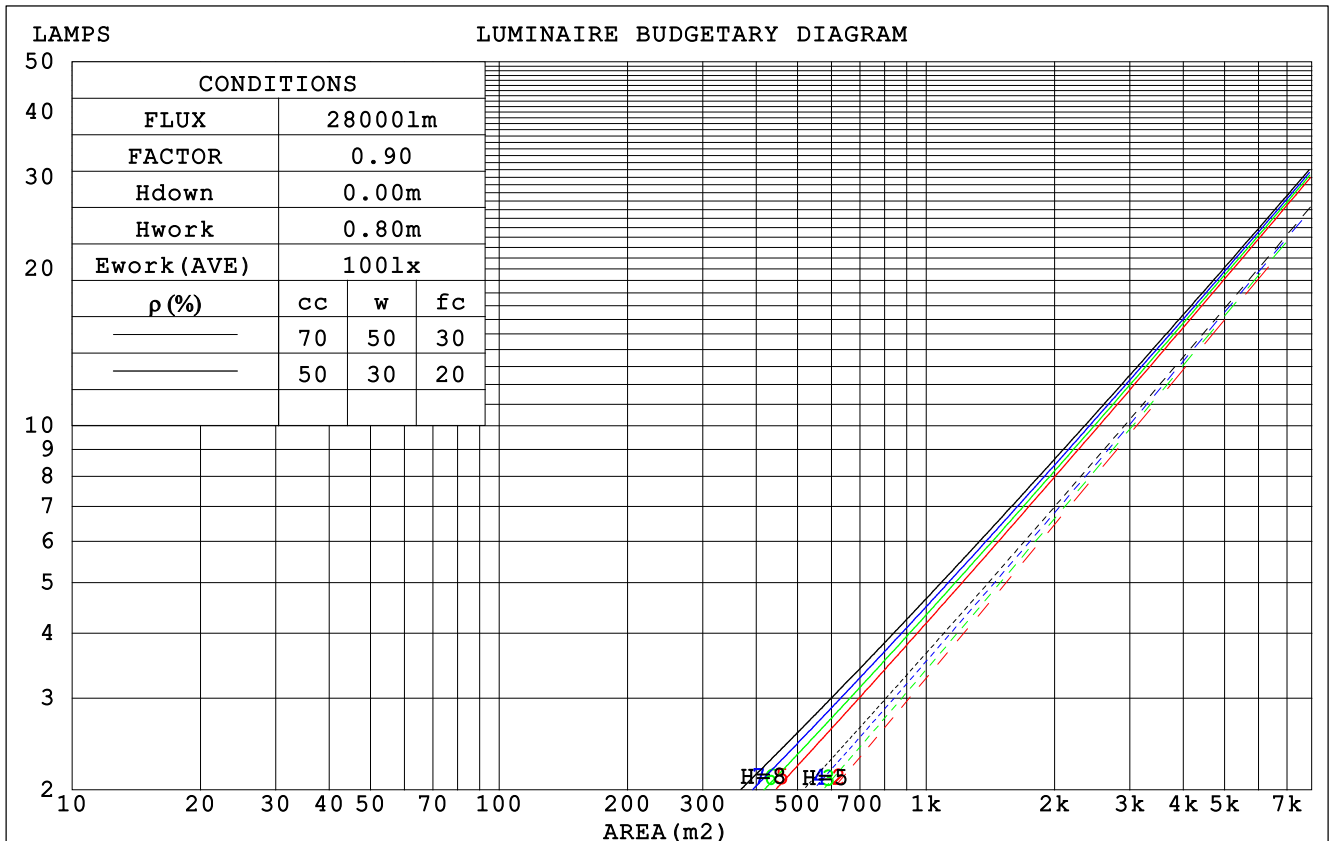
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LTF
Test Date:2020-06-21

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
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Test Distance:9.432m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.83	.78	.75	.80	.77	.74	.72
4.0	.82	.75	.70	.81	.74	.69	.78	.73	.68	.76	.71	.68	.74	.70	.67	.65
5.0	.75	.68	.63	.74	.67	.62	.72	.66	.62	.70	.65	.61	.69	.64	.61	.59
6.0	.69	.62	.57	.69	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.56	.54
7.0	.64	.57	.52	.64	.57	.52	.62	.56	.52	.61	.55	.51	.60	.55	.51	.49
8.0	.60	.53	.48	.59	.52	.48	.58	.52	.48	.57	.51	.47	.56	.51	.47	.45
9.0	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.52	.47	.44	.42
10.0	.52	.46	.41	.52	.45	.41	.51	.45	.41	.50	.45	.41	.49	.44	.41	.39



C Range: 0 - 360DEG
 C Interval: 15.0DEG
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 Test Date: 2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.432m [K=1.0000]
 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	.229	.130	.041	.222	.127	.040	.209	.120	.038	.197	.114	.036	.186	.108	.035															
2.0	.218	.119	.037	.212	.117	.036	.201	.112	.035	.191	.107	.034	.181	.103	.032															
3.0	.206	.109	.033	.200	.107	.032	.191	.103	.031	.182	.100	.031	.174	.096	.030															
4.0	.193	.101	.030	.189	.099	.029	.181	.096	.029	.173	.093	.028	.166	.090	.027															
5.0	.182	.093	.027	.178	.092	.027	.171	.089	.026	.164	.087	.026	.158	.084	.025															
6.0	.172	.086	.025	.168	.085	.024	.162	.083	.024	.156	.081	.024	.150	.079	.023															
7.0	.162	.080	.023	.159	.079	.023	.154	.078	.022	.148	.076	.022	.143	.074	.022															
8.0	.154	.075	.021	.151	.074	.021	.146	.073	.021	.141	.071	.021	.136	.070	.020															
9.0	.146	.071	.020	.143	.070	.020	.139	.069	.019	.134	.067	.019	.130	.066	.019															
10.0	.139	.067	.018	.137	.066	.018	.132	.065	.018	.128	.064	.018	.125	.063	.018															

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	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016		
2.0	.162	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012		
3.0	.152	.114	.083	.130	.098	.072	.090	.068	.051	.052	.040	.030	.017	.013	.010		
4.0	.143	.100	.067	.123	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008		
5.0	.135	.089	.054	.116	.077	.047	.080	.054	.033	.046	.031	.020	.015	.010	.007		
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005		
7.0	.122	.073	.038	.105	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005		
8.0	.116	.067	.033	.100	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004		
9.0	.110	.062	.029	.095	.053	.025	.066	.038	.018	.038	.022	.011	.012	.007	.003		
10.0	.105	.057	.025	.091	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LTF
 Test Date:2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.432m [K=1.0000]
 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	22.0	23.3	22.4	23.6	23.9	22.0	23.3	22.4	23.6	23.9
3H	23.0	24.2	23.4	24.5	24.9	23.0	24.2	23.4	24.5	24.9
4H	23.4	24.5	23.8	24.8	25.2	23.4	24.5	23.8	24.8	25.2
6H	23.9	24.9	24.3	25.2	25.6	23.9	24.9	24.3	25.2	25.6
8H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
12H	24.3	25.1	24.7	25.5	26.0	24.3	25.1	24.7	25.5	26.0
4H 2H	22.3	23.4	22.7	23.7	24.1	22.3	23.4	22.7	23.7	24.1
3H	23.5	24.4	23.9	24.8	25.2	23.5	24.4	23.9	24.8	25.2
4H	24.0	24.8	24.5	25.2	25.7	24.0	24.8	24.5	25.2	25.7
6H	24.7	25.4	25.2	25.8	26.3	24.7	25.4	25.2	25.8	26.3
8H	25.0	25.6	25.5	26.1	26.5	25.0	25.6	25.5	26.1	26.5
12H	25.2	25.8	25.7	26.3	26.7	25.2	25.8	25.7	26.3	26.7
8H 4H	24.2	24.8	24.7	25.3	25.8	24.2	24.8	24.7	25.3	25.8
6H	25.1	25.6	25.6	26.1	26.6	25.1	25.6	25.6	26.1	26.6
8H	25.5	26.0	26.0	26.5	27.0	25.5	26.0	26.0	26.5	27.0
12H	25.8	26.2	26.4	26.7	27.3	25.8	26.2	26.4	26.7	27.3
12H 4H	24.2	24.8	24.7	25.3	25.8	24.2	24.8	24.7	25.3	25.8
6H	25.2	25.6	25.7	26.1	26.6	25.2	25.6	25.7	26.1	26.6
8H	25.6	26.1	26.2	26.5	27.1	25.6	26.1	26.2	26.5	27.1
CIE190: 2010										

CIE190: 2010
Area: 0.104 m2

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 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
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UTILIZATION FACTORS TABLE

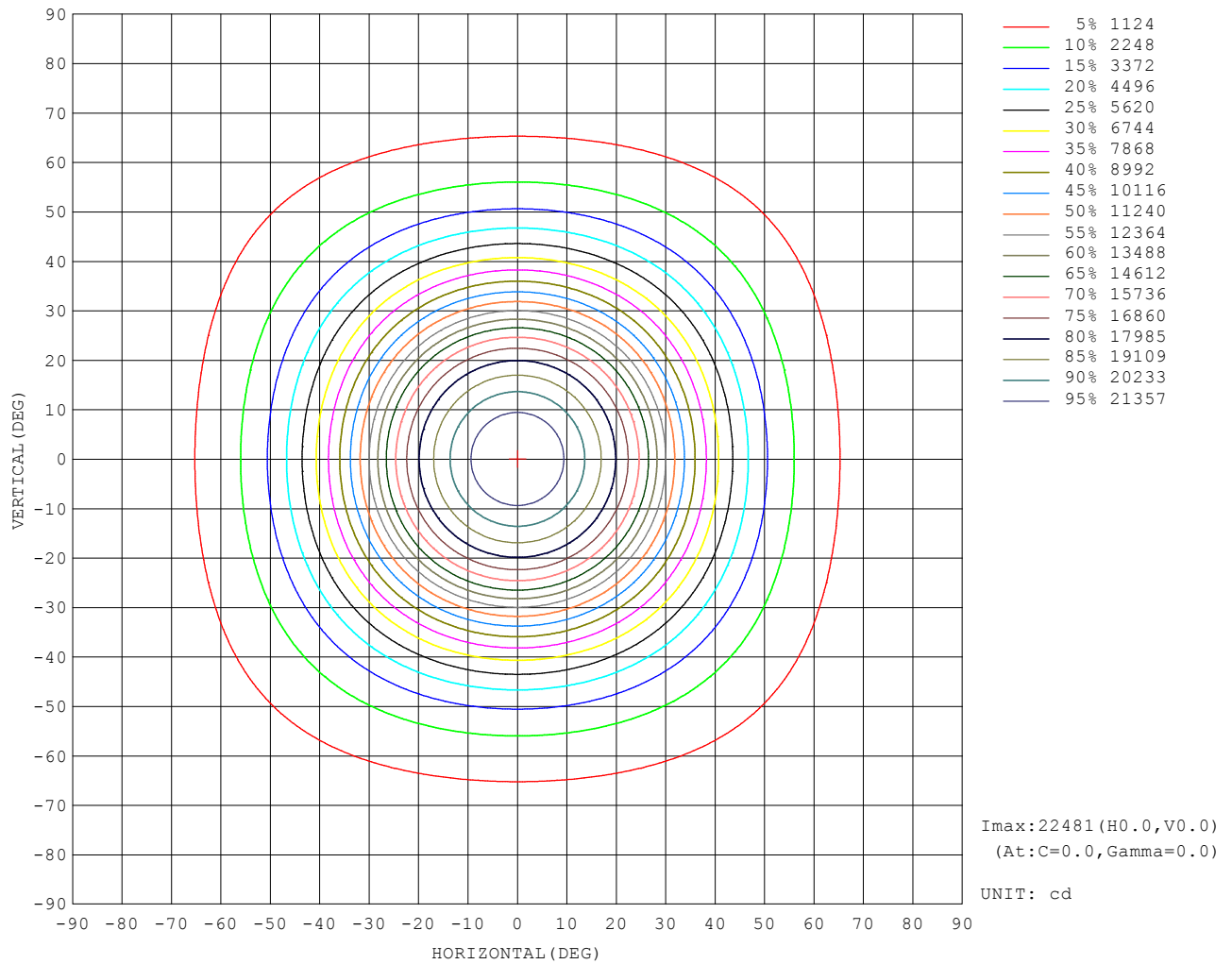
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	74	65	60	73	65	60	72	64	59	55
0.80	83	74	69	82	74	69	80	73	68	63
1.00	89	81	76	88	81	76	87	81	75	70
1.25	95	88	83	94	87	82	91	86	81	76
1.50	99	92	87	97	91	87	95	89	85	80
2.00	103	97	93	102	96	92	99	94	91	84
2.50	106	100	96	104	99	95	101	97	93	86
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	104	109	105	102	105	102	99	92
5.00	112	109	106	110	107	105	106	104	102	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.432m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

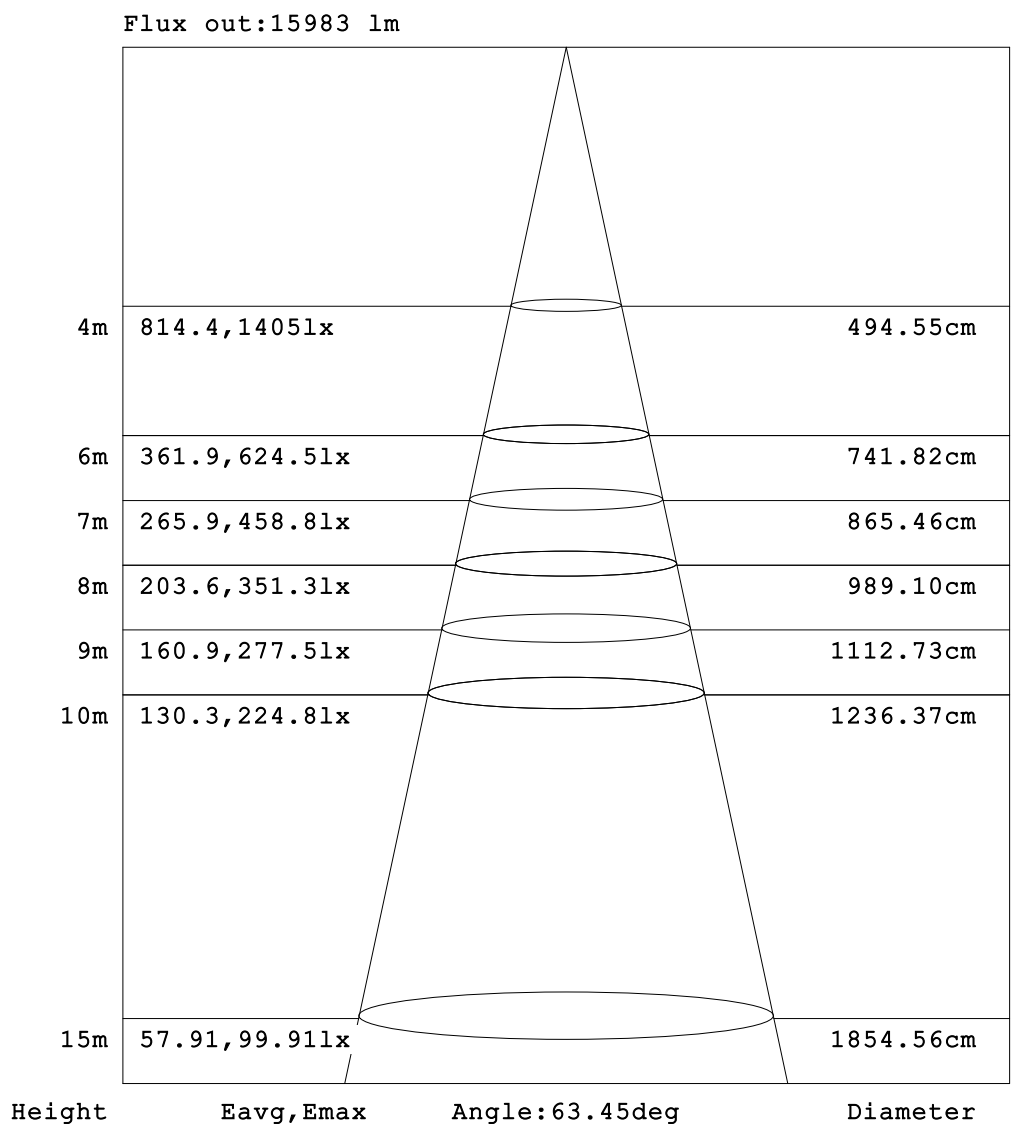
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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Operators:LTF
Test Date:2020-06-21

γ Range: 0 - 90DEG
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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.432m [K=1.0000]
Remarks:

AAI Figure



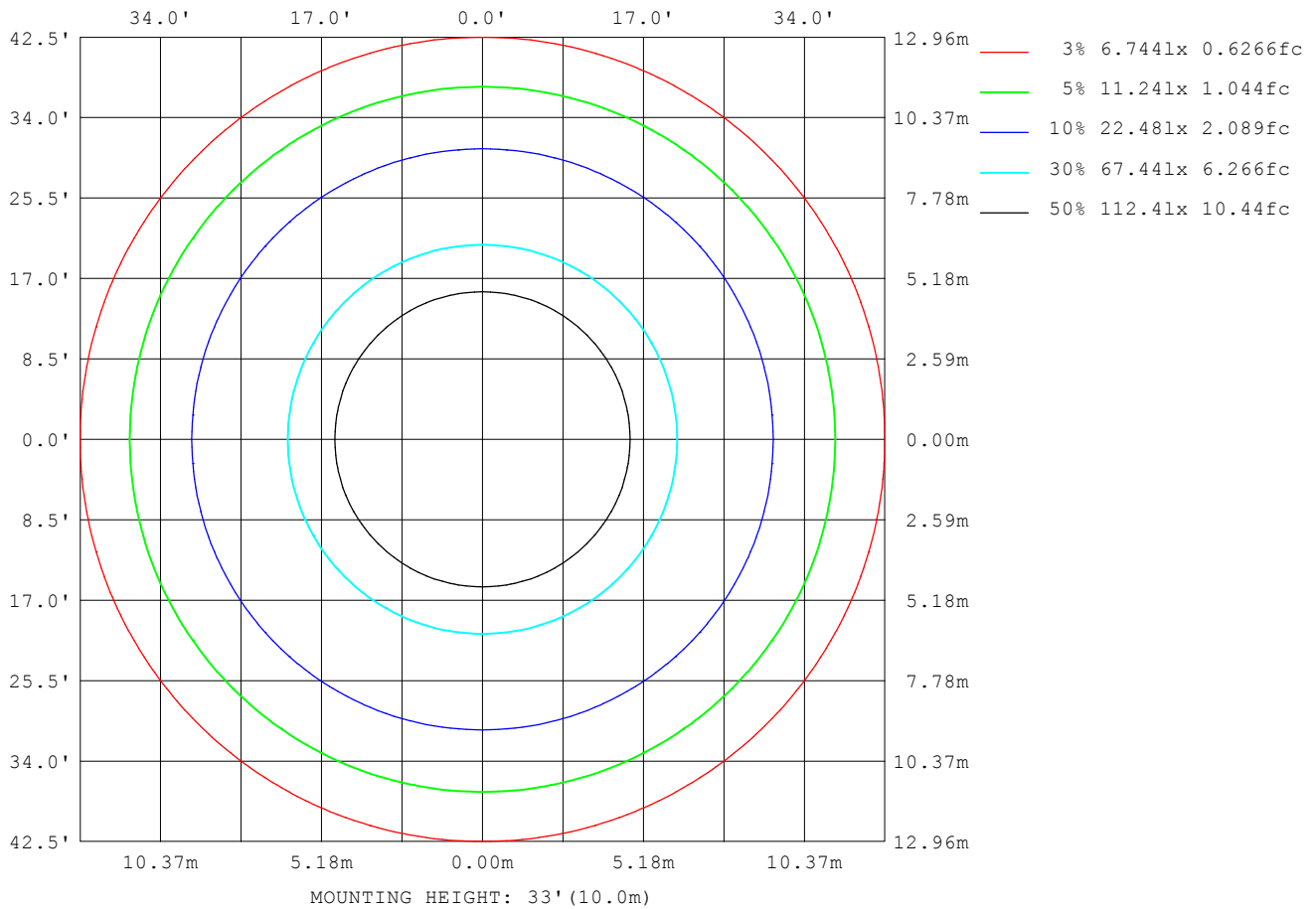
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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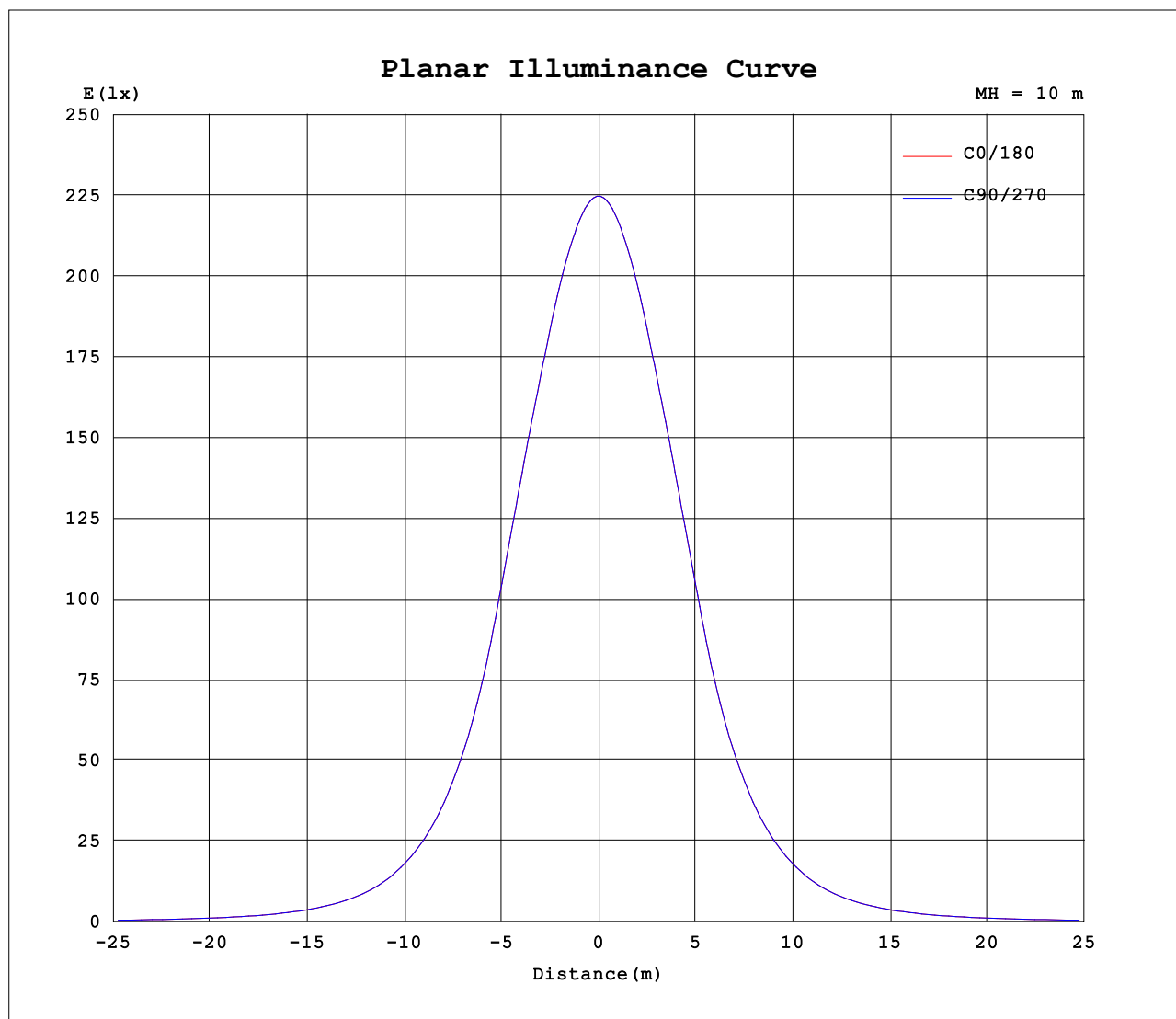
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LTF
Test Date: 2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.432m [K=1.0000]
Remarks:

Planar Illuminance Curve



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Temperature: 25.3DEG
Operators: LTF
Test Date: 2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.432m [K=1.0000]
Remarks: