

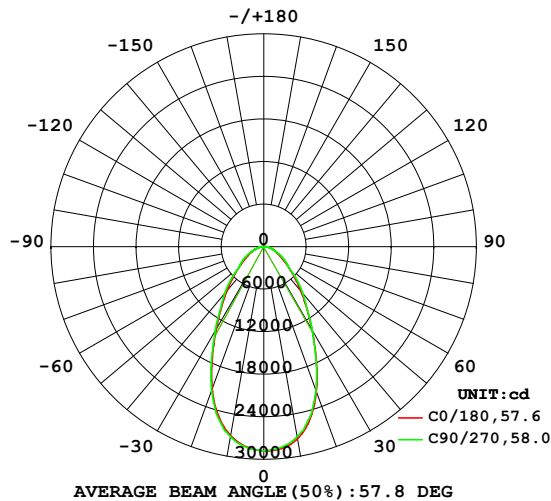
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

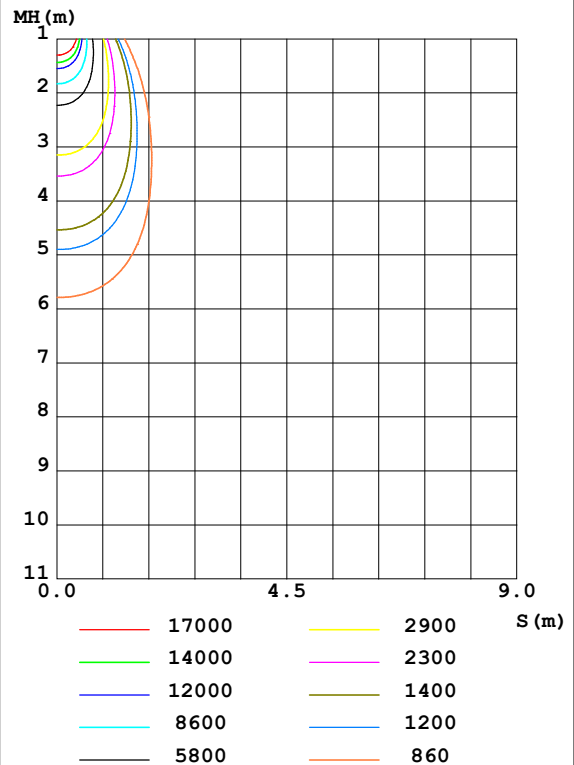
Test:U:230.0V I:1.046A P:238.3W PF:0.9900 Freq:50.00Hz Lamp Flux:36384.5x1 lm		
NAME: LHB09-240-5070-L04501	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 152.68 lm/W
MODEL	/	I _{max} (cd)	28810	S/MH (C0/180)	0.86	
NOMINAL POWER (W)	240	LOR (%)	100.0	S/MH (C90/270)	0.87	
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	36384	η UP, DN (C0-180)	0.0, 50.0	
NOMINAL FLUX (lm)	36384.5	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.95	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-12-26

γ Range: -90 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [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	2750	2736	2720	2705	2706	2705	2720	2736	0- 10	2675	2675	7.35,7.35
20	2171	2157	2156	2129	2128	2129	2156	2157	10- 20	6917	9592	26.4,26.4
30	1368	1388	1377	1374	1343	1374	1377	1388	20- 30	7982	17574	48.3,48.3
40	811.7	851.9	856.1	850.0	803.4	850.0	856.1	851.9	30- 40	6739	24313	66.8,66.8
50	464.2	507.7	461.0	506.7	461.2	506.7	461.0	507.7	40- 50	5025	29337	80.6,80.6
60	269.3	280.7	303.8	279.6	265.2	279.6	303.8	280.7	50- 60	3345	32683	89.8,89.8
70	159.1	163.0	146.7	160.3	152.7	160.3	146.7	163.0	60- 70	2155	34838	95.7,95.7
80	75.73	73.16	74.17	70.43	70.30	70.43	74.17	73.16	70- 80	1165	36003	99,99
90	0.7959	1.891	1.688	1.475	1.038	1.475	1.688	1.891	80- 90	381.8	36384	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): 27057 lm

%lum = 74.4%

%lamp = 74.4%

Conical surface Flux(120deg): 32683 lm

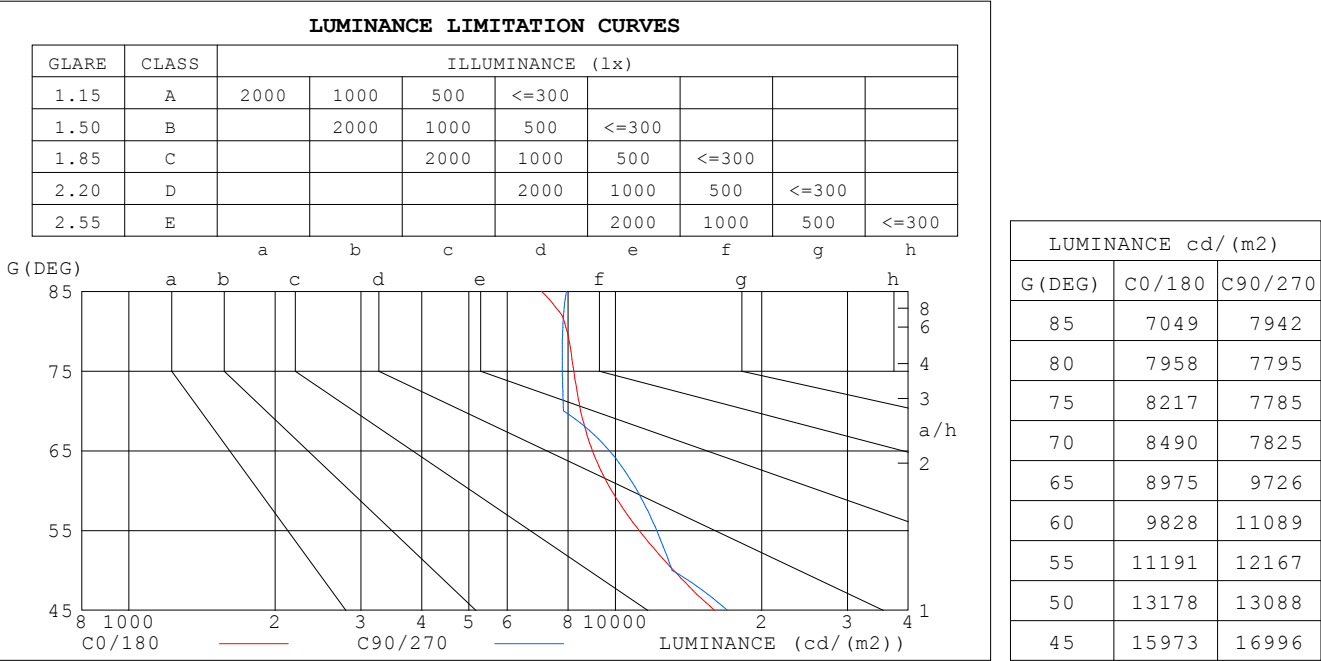
%lum = 89.8%

%lamp = 89.8%

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-12-26

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES



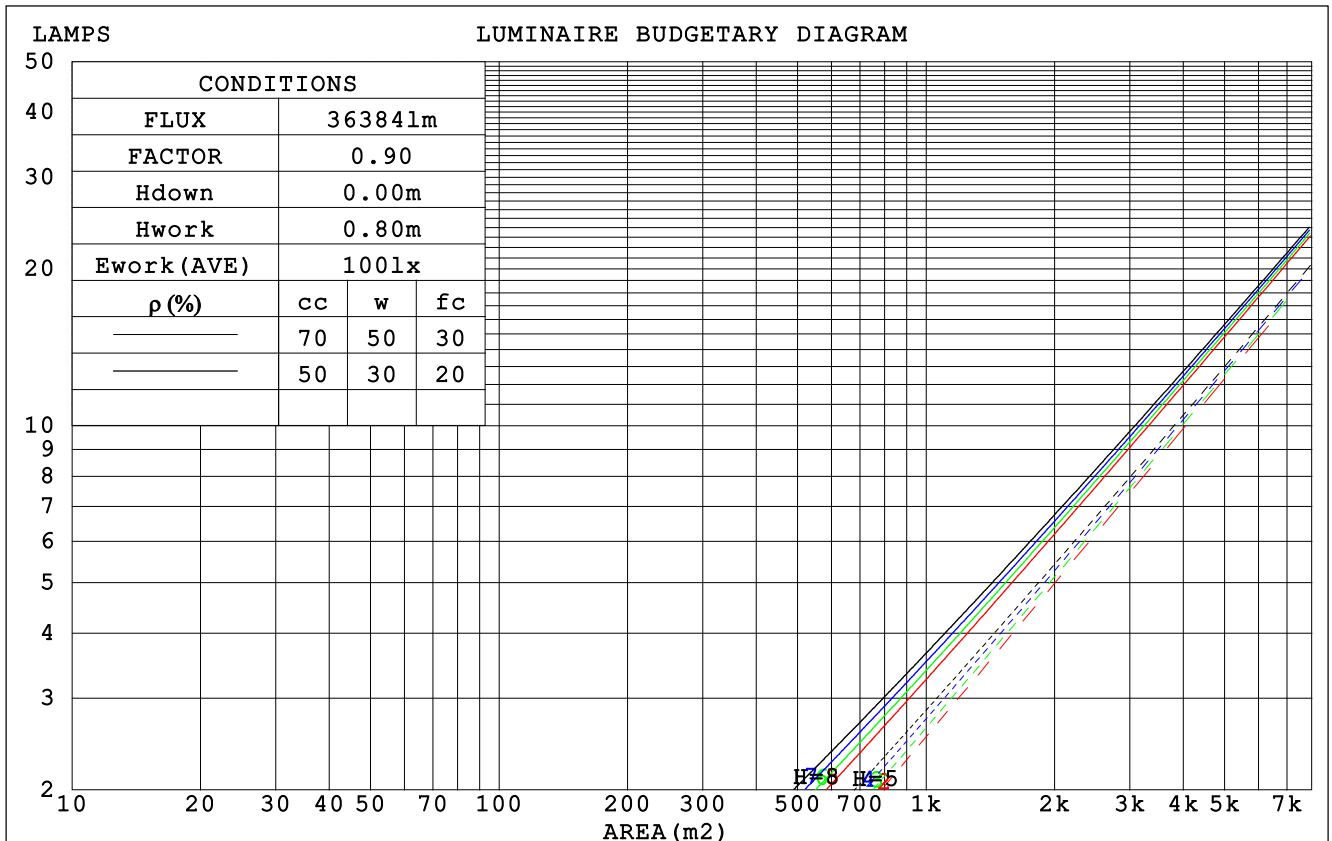
C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-12-26

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [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	.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	.92	.87	.84	.88	.85	.82	.86	.83	.80	.78
3.0	.88	.81	.76	.86	.80	.75	.83	.78	.74	.81	.76	.73	.78	.75	.72	.70
4.0	.80	.73	.67	.79	.72	.67	.76	.71	.66	.74	.69	.65	.72	.68	.64	.63
5.0	.73	.66	.60	.72	.65	.60	.70	.64	.60	.69	.63	.59	.67	.62	.58	.57
6.0	.68	.60	.55	.67	.60	.55	.65	.59	.54	.64	.58	.54	.62	.57	.53	.52
7.0	.63	.55	.50	.62	.55	.50	.60	.54	.50	.59	.53	.49	.58	.53	.49	.47
8.0	.58	.51	.46	.58	.51	.46	.56	.50	.46	.55	.50	.45	.54	.49	.45	.43
9.0	.54	.47	.42	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
10.0	.51	.44	.39	.50	.44	.39	.49	.43	.39	.49	.43	.39	.48	.43	.39	.37



C Range: 0 - 90DEG
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 Operators:
 Test Date:2019-12-26

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.470m [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	.243	.138	.044	.236	.135	.043	.223	.128	.041	.212	.122	.039	.201	.116	.037															
2.0	.231	.126	.039	.225	.124	.038	.214	.119	.037	.203	.114	.036	.194	.110	.035															
3.0	.216	.115	.034	.211	.113	.034	.201	.109	.033	.192	.105	.032	.184	.102	.032															
4.0	.202	.105	.031	.198	.103	.031	.189	.100	.030	.181	.097	.029	.174	.095	.029															
5.0	.189	.097	.028	.185	.095	.028	.178	.093	.027	.171	.090	.027	.164	.088	.026															
6.0	.178	.089	.026	.174	.088	.025	.168	.086	.025	.161	.084	.025	.156	.082	.024															
7.0	.167	.083	.023	.164	.082	.023	.158	.080	.023	.153	.078	.023	.148	.077	.023															
8.0	.158	.077	.022	.155	.076	.022	.150	.075	.021	.145	.073	.021	.140	.072	.021															
9.0	.149	.072	.020	.147	.072	.020	.142	.070	.020	.138	.069	.020	.133	.068	.020															
10.0	.142	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.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	.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	.064	.056	.046	.037	.018	.015	.012		
3.0	.154	.114	.082	.132	.098	.071	.091	.068	.050	.052	.040	.029	.017	.013	.010		
4.0	.145	.100	.065	.125	.086	.057	.086	.060	.040	.050	.035	.024	.016	.011	.008		
5.0	.137	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006		
6.0	.130	.080	.044	.112	.069	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005		
7.0	.124	.073	.038	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005		
8.0	.117	.067	.032	.101	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004		
9.0	.112	.062	.028	.096	.054	.025	.067	.038	.017	.039	.022	.010	.013	.007	.003		
10.0	.107	.058	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003		

C Range: 0 - 90DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-12-26

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.470m [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	18.4	19.8	18.8	20.1	20.4	19.0	20.4	19.4	20.7	21.0
3H	19.9	21.1	20.3	21.4	21.8	20.3	21.5	20.7	21.8	22.2
4H	20.5	21.7	20.9	22.0	22.4	20.8	21.9	21.2	22.2	22.6
6H	21.0	22.1	21.5	22.5	22.8	21.2	22.2	21.6	22.6	23.0
8H	21.2	22.2	21.7	22.6	23.0	21.4	22.4	21.8	22.8	23.2
12H	21.3	22.3	21.8	22.7	23.1	21.5	22.5	21.9	22.8	23.3
4H 2H	19.0	20.1	19.4	20.4	20.8	19.4	20.6	19.8	20.9	21.3
3H	20.6	21.6	21.1	22.0	22.4	20.9	21.8	21.3	22.2	22.6
4H	21.4	22.2	21.8	22.6	23.1	21.5	22.4	22.0	22.8	23.2
6H	22.0	22.7	22.5	23.2	23.7	22.1	22.8	22.6	23.3	23.7
8H	22.3	22.9	22.7	23.4	23.8	22.3	23.0	22.8	23.5	23.9
12H	22.4	23.0	22.9	23.5	24.0	22.5	23.1	23.0	23.6	24.1
8H 4H	21.6	22.3	22.1	22.8	23.2	21.7	22.4	22.2	22.9	23.3
6H	22.4	23.0	22.9	23.5	23.9	22.5	23.0	23.0	23.5	24.0
8H	22.7	23.2	23.2	23.7	24.2	22.8	23.3	23.3	23.8	24.3
12H	23.0	23.4	23.5	23.9	24.5	23.1	23.5	23.6	24.0	24.6
12H 4H	21.7	22.3	22.1	22.7	23.2	21.7	22.3	22.2	22.8	23.3
6H	22.5	23.0	23.0	23.4	24.0	22.5	23.0	23.0	23.5	24.0
8H	22.8	23.3	23.3	23.8	24.3	22.9	23.3	23.4	23.8	24.4
CIE190: 2010										

CIE190: 2010
Area: 0.221 m2

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-12-26

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

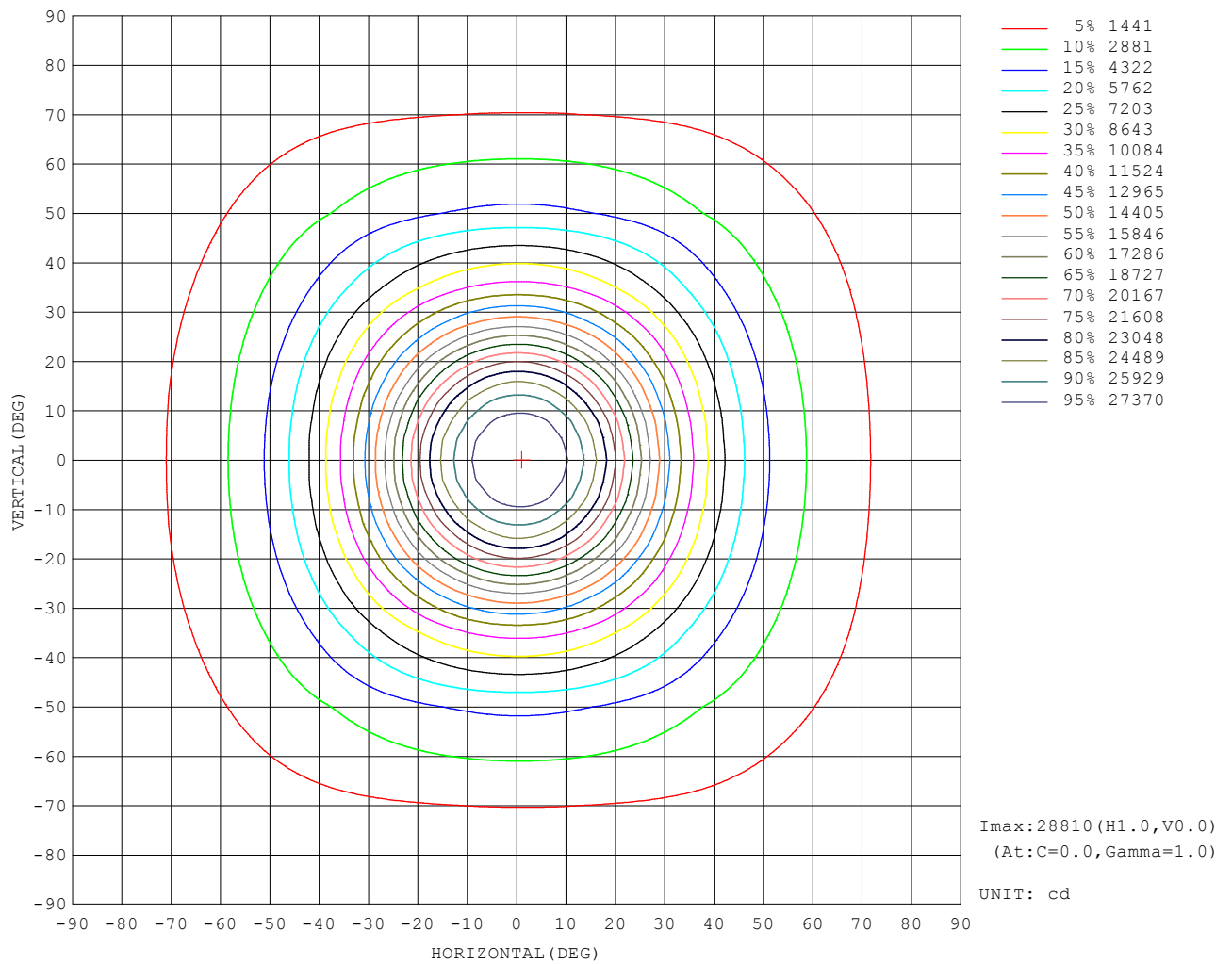
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	62	56	70	61	56	69	61	56	51
0.80	80	71	65	79	71	65	78	70	65	59
1.00	87	78	73	86	78	73	84	79	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	81
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 - 90DEG
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 Test Speed: HIGH
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 Operators:
 Test Date: 2019-12-26

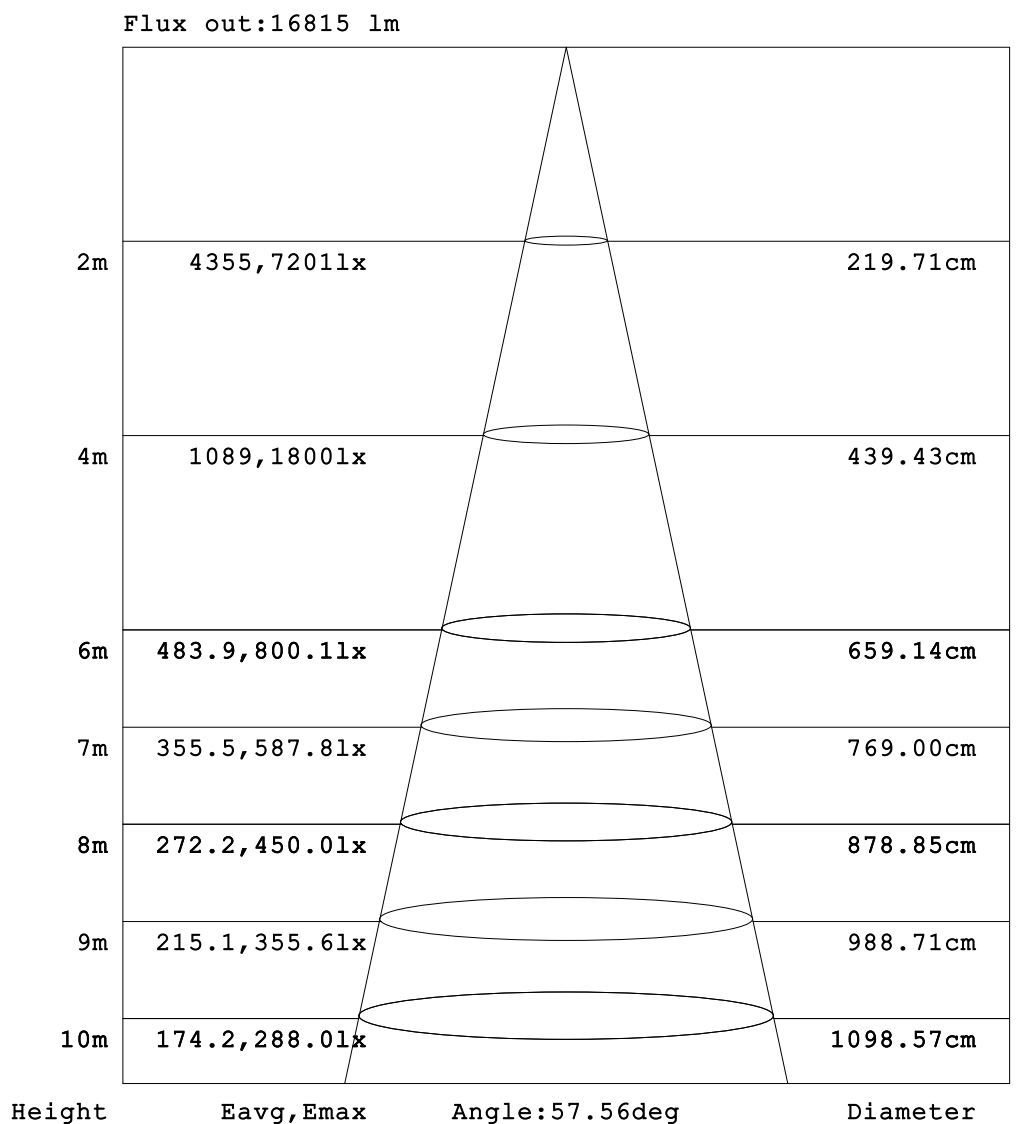
γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM



C Range: 0 - 90DEG	γ Range:-90 - 90DEG
C Interval: 5.0DEG	γ Interval: 0.5DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Temperature:25.3DEG	Humidity:65.0%
Operators:	Test Distance:9.470m [K=1.0000]
Test Date:2019-12-26	Remarks:

AAI Figure



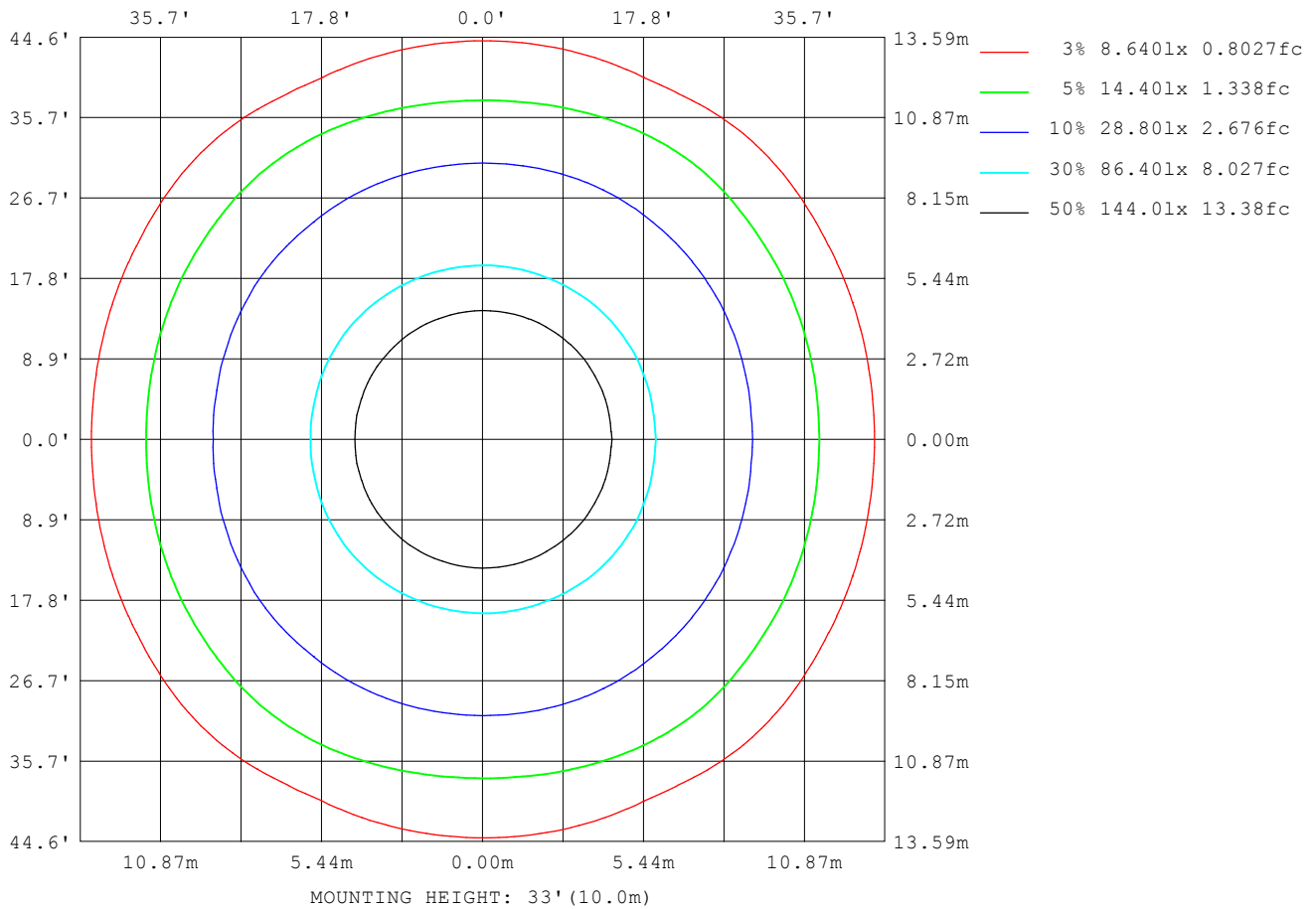
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-12-26

γ Range:-90 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

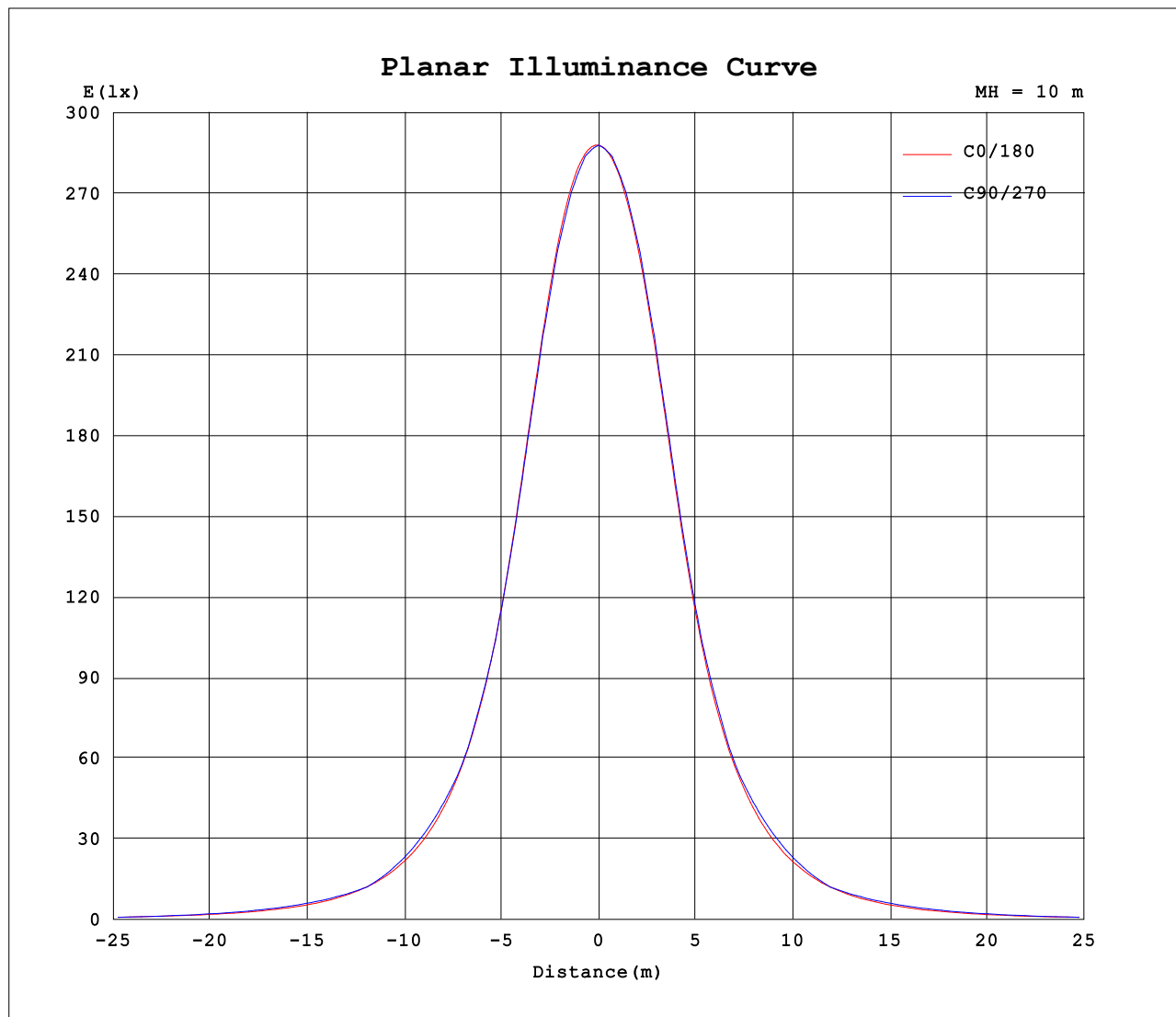
ISOLUX DIAGRAM



C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-12-26

γ Range: -90 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-12-26

γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks: