

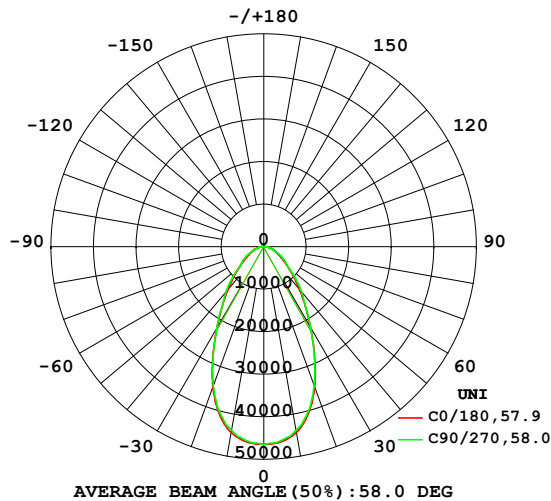
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

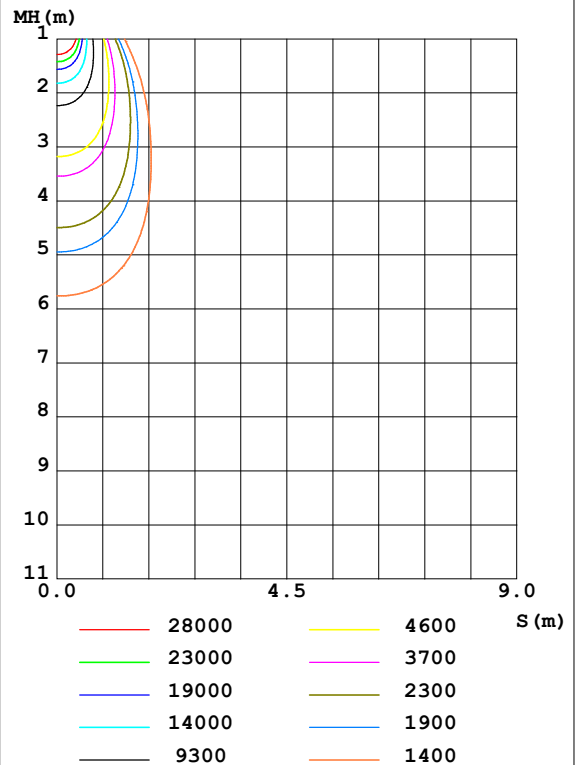
Test:U:230.0V I:1.749A P:398.2W PF:0.9900 Freq:50.00Hz Lamp Flux:58965.9x1 lm					
NAME: LHB09-400-5070-L04501			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 148.08 lm/W
MODEL	/	I _{max} (cd)	46453	S/MH (C0/180)	0.88	
NOMINAL POWER (W)	400	LOR (%)	100.0	S/MH (C90/270)	0.87	
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	58966	η UP, DN (C0-180)	0.0, 50.0	
NOMINAL FLUX (lm)	58965.9	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	4434	4412	4385	4412	4434	4412	4385	4412	0- 10	4327	4327	7.34,7.34
20	3501	3478	3476	3478	3501	3478	3476	3478	10- 20	11212	15539	26.4,26.4
30	2206	2238	2220	2238	2206	2238	2220	2238	20- 30	12935	28474	48.3,48.3
40	1309	1374	1380	1374	1309	1374	1380	1374	30- 40	10897	39372	66.8,66.8
50	748.5	818.6	743.3	818.6	748.5	818.6	743.3	818.6	40- 50	8115	47487	80.5,80.5
60	434.2	452.6	489.9	452.6	434.2	452.6	489.9	452.6	50- 60	5406	52893	89.7,89.7
70	256.6	262.8	236.5	262.8	256.6	262.8	236.5	262.8	60- 70	3500	56392	95.6,95.6
80	122.1	118.0	119.6	118.0	122.1	118.0	119.6	118.0	70- 80	1926	58318	98.9,98.9
90	1.283	3.049	2.722	3.049	1.283	3.049	2.722	3.049	80- 90	647.3	58966	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): 43805 lm

%lum = 74.3%

%lamp = 74.3%

Conical surface Flux(120deg): 52893 lm

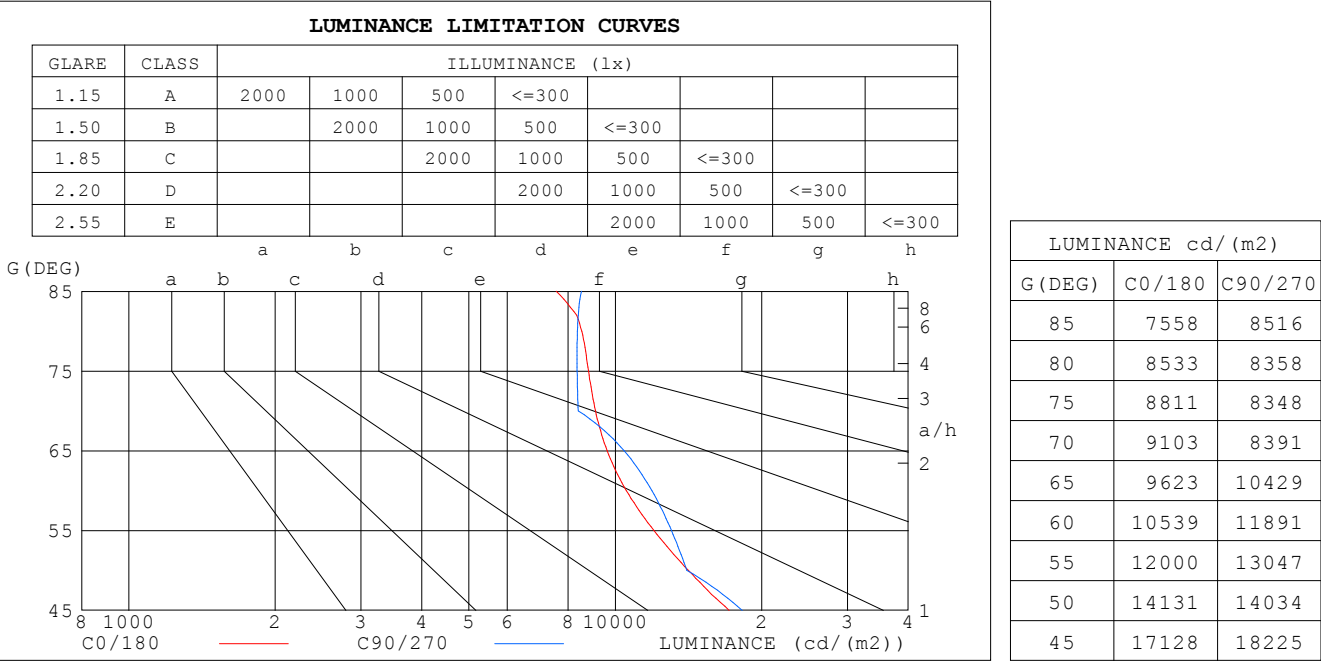
%lum = 89.7%

%lamp = 89.7%

C Range: 0 - 90DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
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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



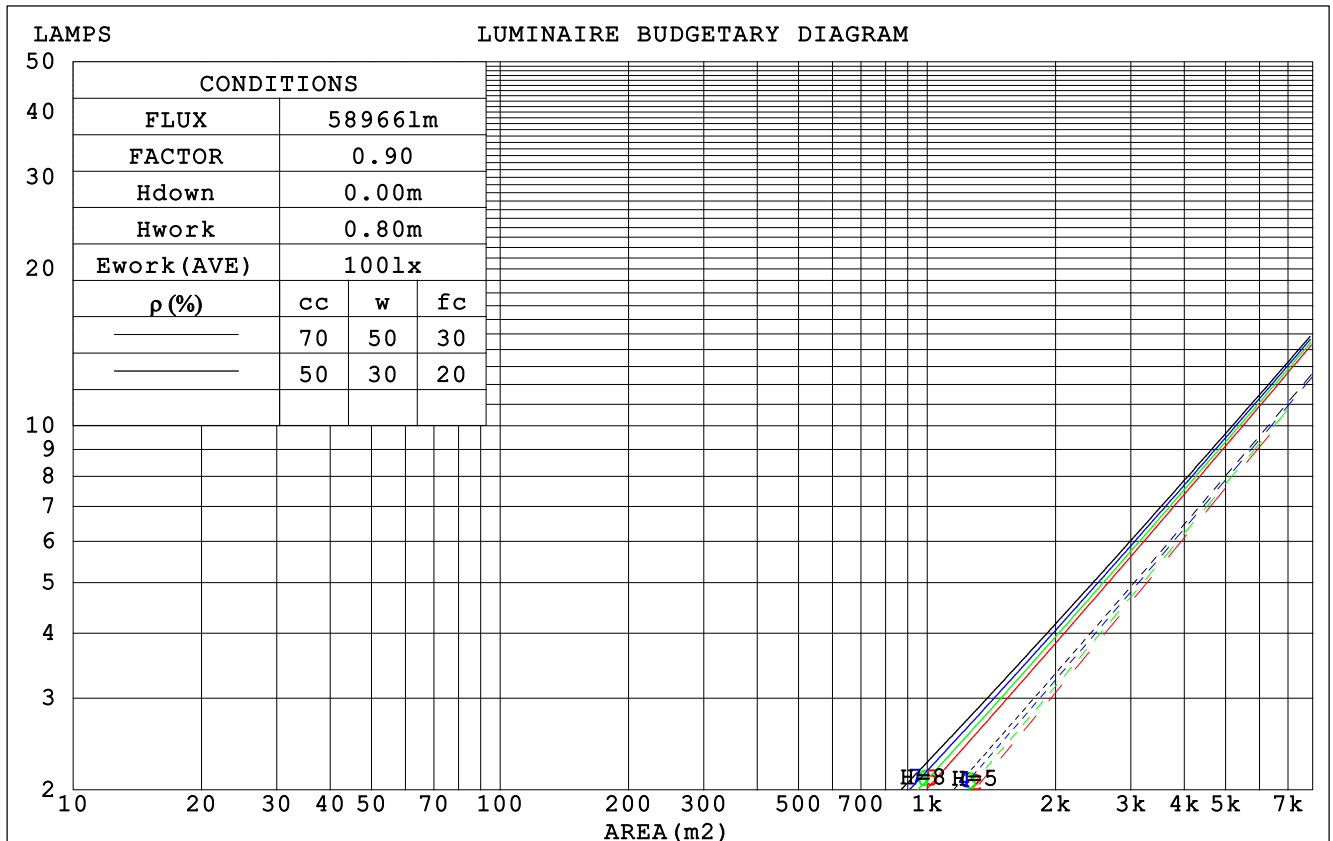
C Range: 0 - 90DEG
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Temperature:25.3DEG
Operators:
Test Date:2019-12-26

γ Range:-90 - 90DEG
γ Interval: 0.5DEG
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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	.90	.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	.59	.68	.63	.59	.67	.62	.58	.57
6.0	.68	.60	.55	.67	.60	.54	.65	.59	.54	.63	.58	.54	.62	.57	.53	.51
7.0	.63	.55	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.58	.53	.49	.47
8.0	.58	.51	.46	.58	.51	.46	.56	.50	.46	.55	.49	.45	.54	.49	.45	.43
9.0	.54	.47	.42	.54	.47	.42	.53	.46	.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



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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	.244	.139	.044	.237	.135	.043	.224	.129	.041	.212	.122	.039	.201	.117	.038															
2.0	.231	.127	.039	.225	.124	.038	.214	.119	.037	.204	.114	.036	.194	.110	.035															
3.0	.216	.115	.035	.211	.113	.034	.202	.109	.033	.193	.106	.032	.184	.102	.032															
4.0	.202	.105	.031	.198	.104	.031	.189	.100	.030	.182	.097	.029	.174	.095	.029															
5.0	.190	.097	.028	.186	.095	.028	.178	.093	.027	.171	.090	.027	.165	.088	.026															
6.0	.178	.089	.026	.174	.088	.025	.168	.086	.025	.162	.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	.019	.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	.037	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005		
8.0	.118	.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	18.7	20.0	19.0	20.3	20.6	19.3	20.6	19.7	21.0	21.3
3H	20.1	21.3	20.5	21.7	22.0	20.5	21.7	20.9	22.1	22.4
4H	20.8	21.9	21.2	22.2	22.6	21.0	22.2	21.4	22.5	22.9
6H	21.3	22.3	21.7	22.7	23.1	21.5	22.5	21.9	22.9	23.3
8H	21.4	22.4	21.9	22.8	23.2	21.6	22.6	22.1	23.0	23.4
12H	21.6	22.5	22.0	22.9	23.3	21.8	22.7	22.2	23.1	23.5
4H 2H	19.2	20.3	19.6	20.7	21.1	19.7	20.8	20.1	21.2	21.6
3H	20.9	21.8	21.3	22.2	22.6	21.2	22.1	21.6	22.5	22.9
4H	21.6	22.4	22.0	22.9	23.3	21.8	22.6	22.2	23.1	23.5
6H	22.2	23.0	22.7	23.4	23.9	22.4	23.1	22.8	23.6	24.0
8H	22.5	23.2	22.9	23.6	24.1	22.6	23.3	23.1	23.7	24.2
12H	22.6	23.2	23.1	23.7	24.2	22.8	23.4	23.3	23.9	24.4
8H 4H	21.9	22.5	22.3	23.0	23.4	22.0	22.7	22.5	23.2	23.6
6H	22.6	23.2	23.1	23.7	24.2	22.8	23.3	23.3	23.8	24.3
8H	22.9	23.4	23.5	23.9	24.4	23.1	23.6	23.6	24.1	24.6
12H	23.2	23.6	23.7	24.1	24.7	23.4	23.8	23.9	24.3	24.9
12H 4H	21.9	22.5	22.4	23.0	23.4	22.0	22.6	22.5	23.1	23.6
6H	22.7	23.2	23.2	23.7	24.2	22.8	23.3	23.3	23.8	24.3
8H	23.1	23.5	23.6	24.0	24.6	23.2	23.6	23.7	24.1	24.7
CIE190: 2010										

CIE190: 2010
Area: 0.3315 m2

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Operators:
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γ Range:-90 - 90DEG
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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
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Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

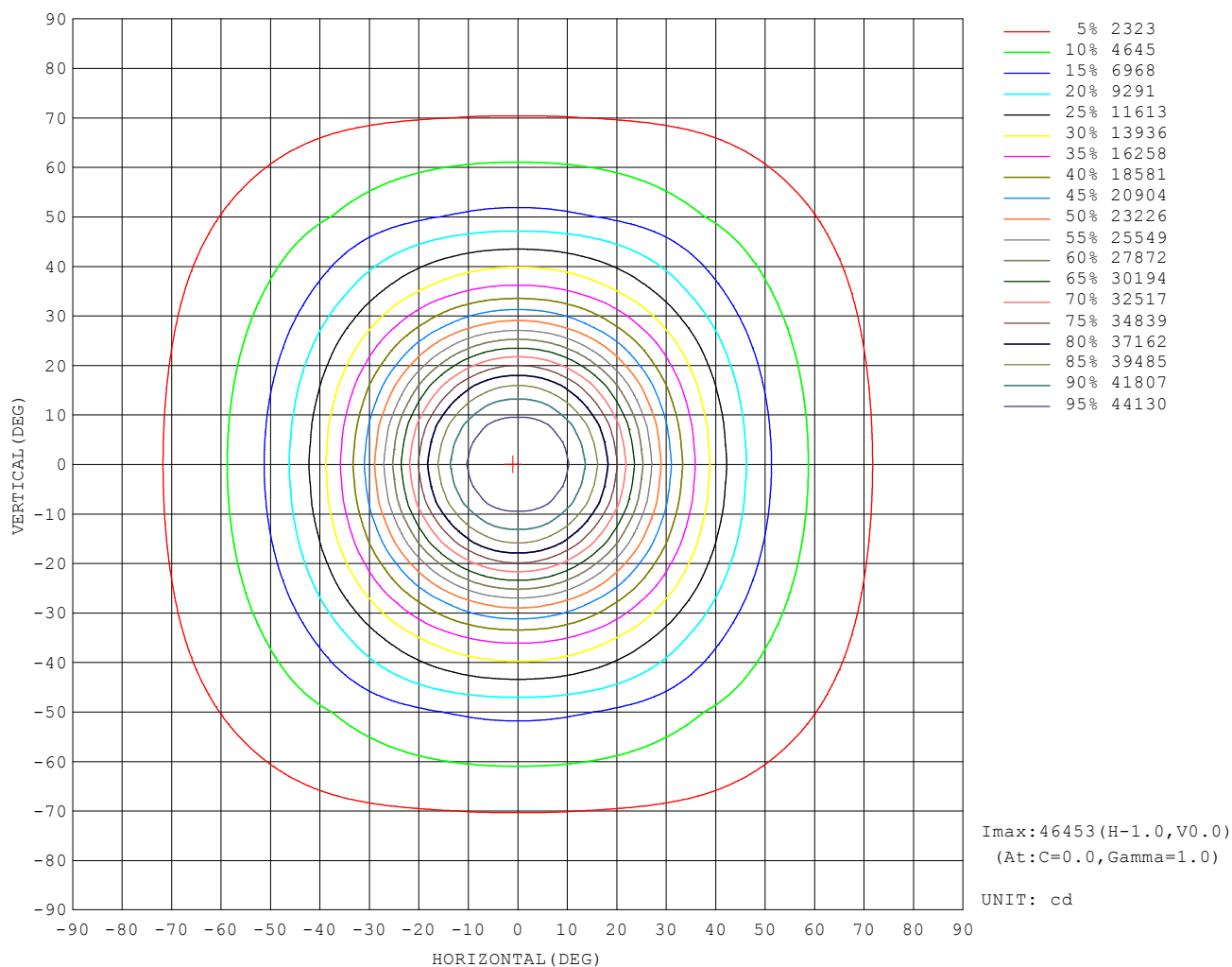
UTILIZATION FACTORS TABLE

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	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	92	87	82	76
2.00	102	95	90	100	94	89	97	92	88	81
2.50	104	98	94	102	97	93	99	95	91	84
3.00	107	102	97	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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 Operators:
 Test Date: 2019-12-26

γ Range: -90 - 90DEG
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 Humidity: 65.0%
 Test Distance: 9.470m [K=1.0000]
 Remarks:

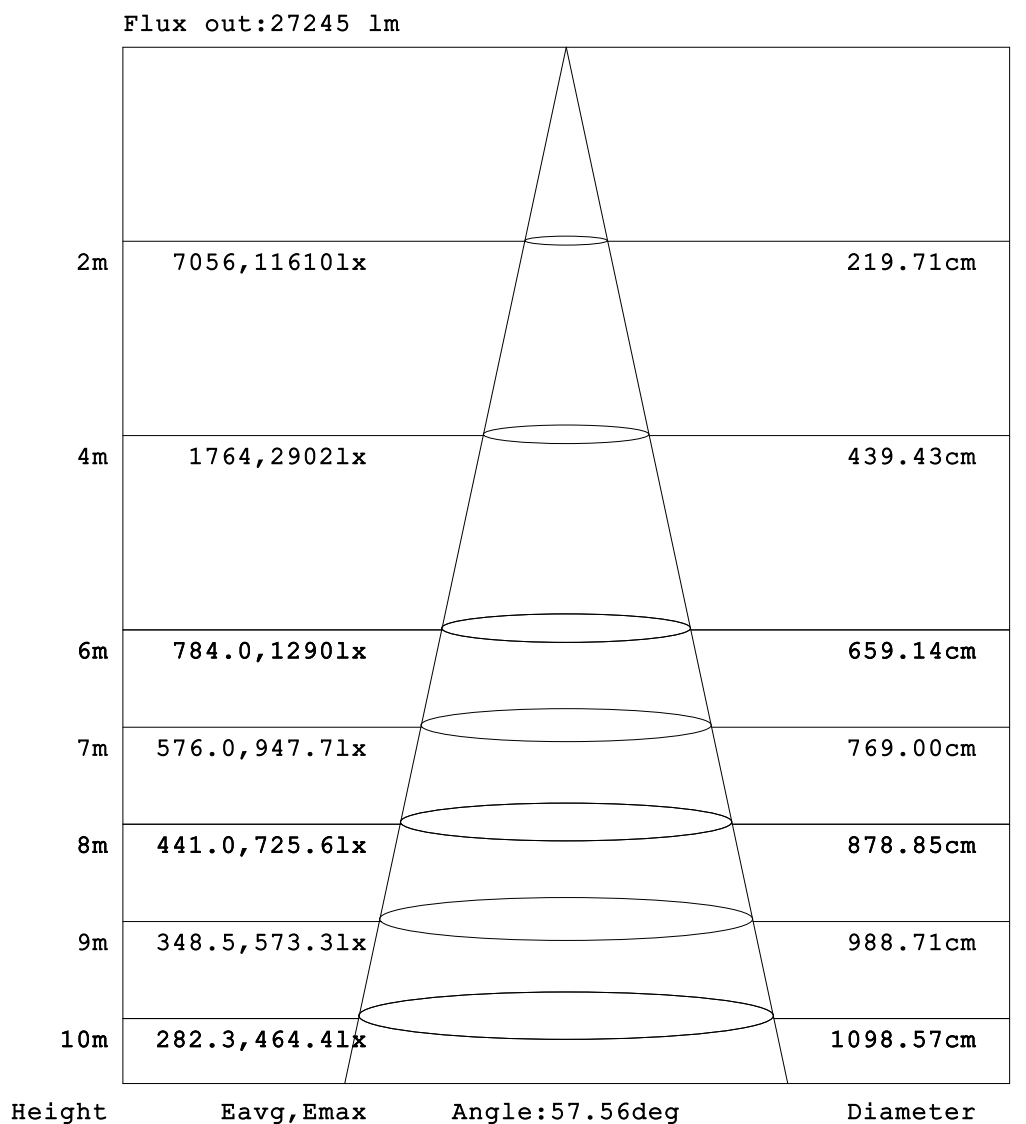
ISOCANDELA DIAGRAM



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
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Remarks:

AAI Figure



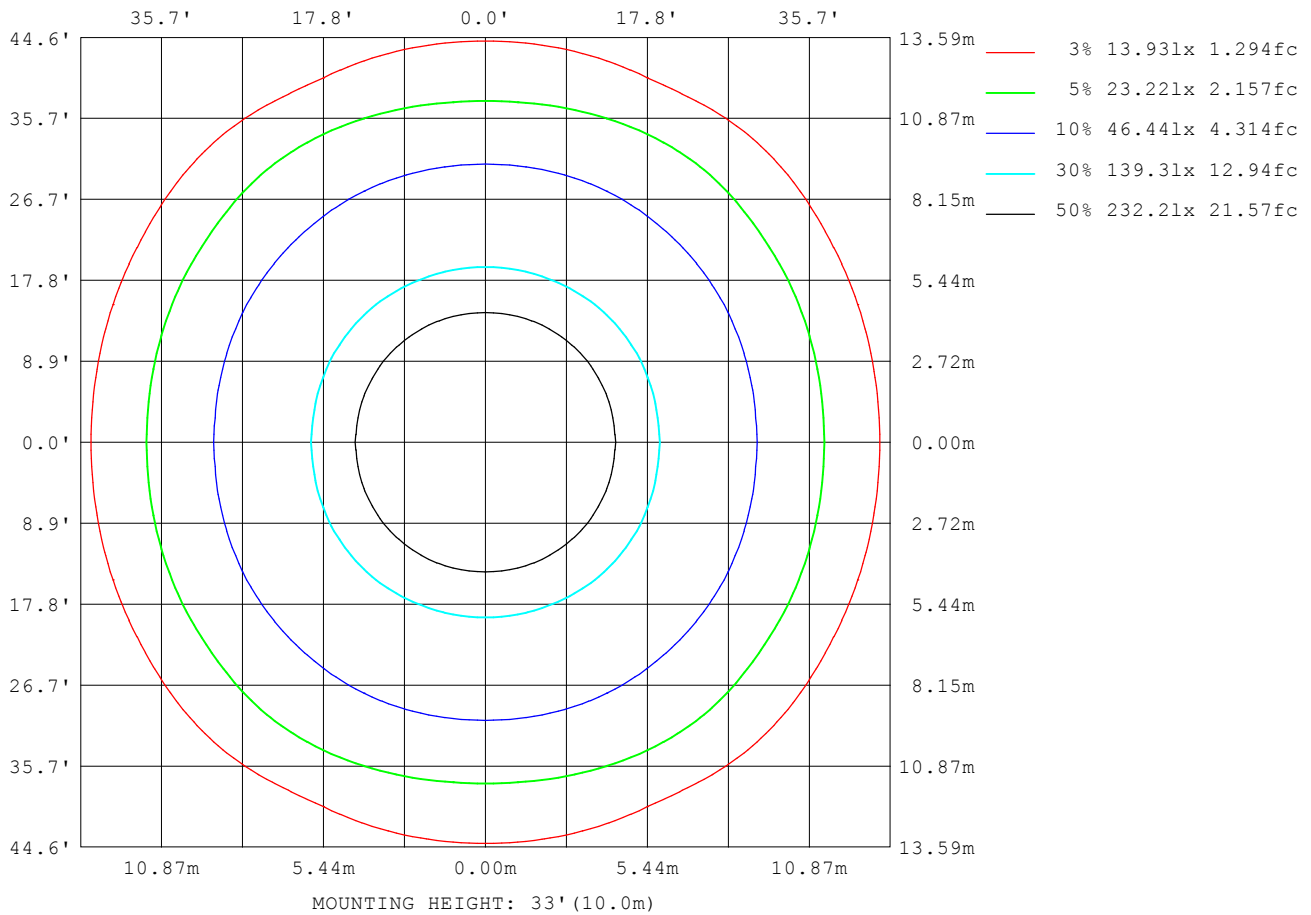
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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C Interval: 5.0DEG
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EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

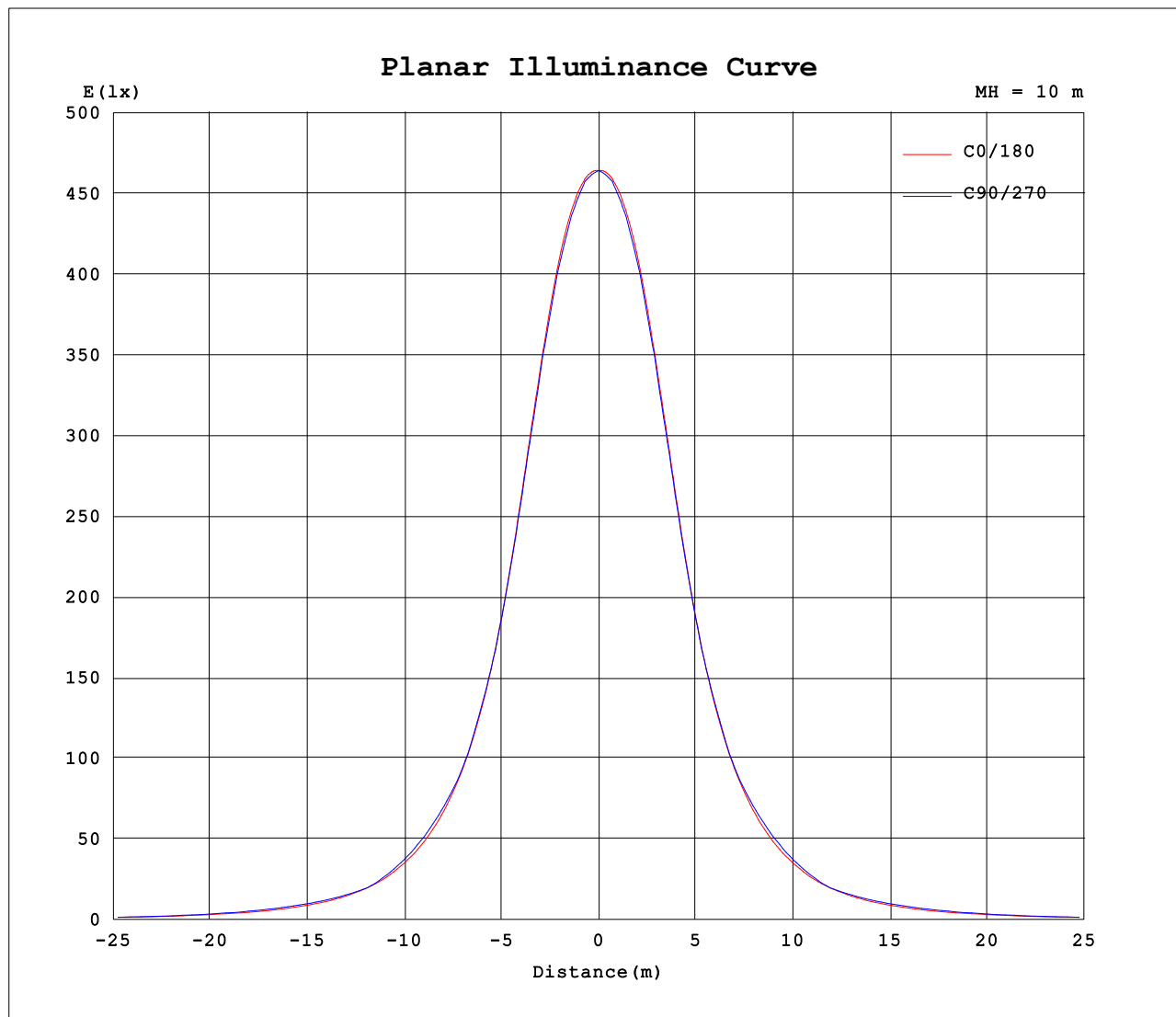
ISOLUX DIAGRAM



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
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Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Planar Illuminance Curve



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Operators:
Test Date: 2019-12-26

γ Range: -90 - 90DEG
 γ Interval: 0.5DEG
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Remarks: