

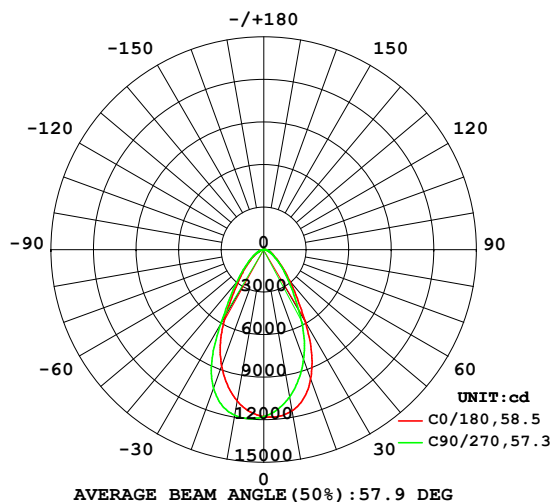
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

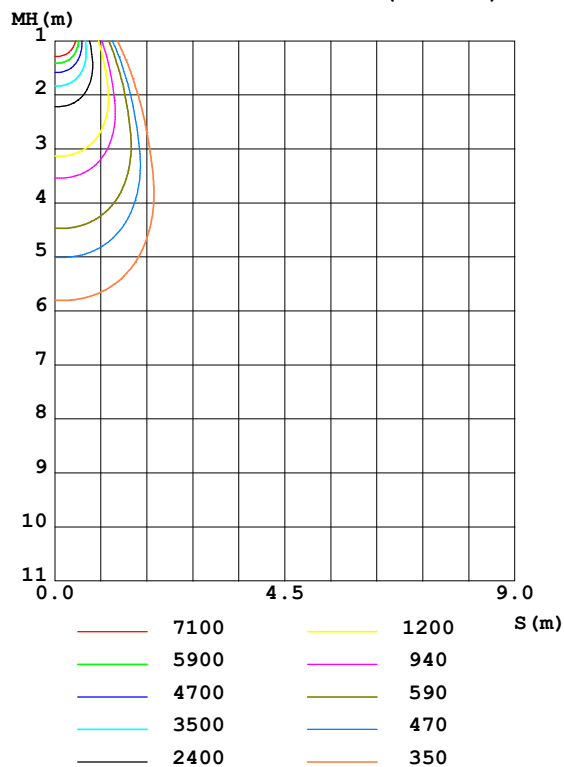
Test:U:230.1V I:0.4577A P:99.02W PF:0.9407 Lamp Flux:13301x1 lm		
NAME: HB38-100-5070-H00126	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 134.32 lm/W			
MODEL	RF303	I _{max} (cd)	12025	S/MH (C0/180)	0.87
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH (C90/270)	0.91
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	13301	η UP,DN (C0-180)	0.0,47.5
NOMINAL FLUX(lm)	13301	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,52.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.90

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LI
 Test Date: 2019-12-23

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:

Checker: LI

Assessor:

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
5	1180	1152	1131	1129	1147	1175	1196	1198	0- 5	279.9	279.9	2.1,2.1
10	1154	1096	1054	1049	1084	1141	1186	1192	5- 10	816.9	1097	8.25,8.25
15	1087	1005	949.6	943.8	989.3	1068	1137	1146	10- 15	1282	2379	17.9,17.9
20	968.8	879.6	823.4	822.1	870.6	956.1	1037	1045	15- 20	1621	4000	30.1,30.1
25	799.3	724.2	671.3	677.8	724.6	797.7	868.5	865.9	20- 25	1778	5778	43.4,43.4
30	582.7	541.6	495.8	509.9	540.2	593.5	610.8	618.0	25- 30	1678	7457	56.1,56.1
35	404.7	386.5	354.8	367.4	373.4	414.0	417.4	423.7	30- 35	1387	8844	66.5,66.5
40	280.9	269.2	254.8	259.0	265.2	284.9	294.4	289.3	35- 40	1101	9945	74.8,74.8
45	201.0	191.2	188.8	185.7	190.7	203.9	209.7	203.5	40- 45	863.5	10808	81.3,81.3
50	143.4	135.0	133.3	130.9	134.1	143.9	149.6	144.7	45- 50	669.2	11477	86.3,86.3
55	104.4	98.90	98.97	96.98	99.23	104.8	107.5	104.2	50- 55	520.8	11998	90.2,90.2
60	74.72	71.49	71.71	70.11	71.70	75.60	76.17	74.83	55- 60	399.8	12398	93.2,93.2
65	54.10	51.66	52.31	50.81	51.91	54.30	56.38	54.41	60- 65	302.6	12701	95.5,95.5
70	41.13	39.51	39.67	38.27	40.12	40.65	42.14	40.39	65- 70	235.4	12936	97.3,97.3
75	27.28	28.25	29.01	30.33	28.57	29.09	26.97	28.20	70- 75	181.7	13118	98.6,98.6
80	15.47	15.14	15.87	15.58	16.21	14.85	15.25	15.11	75- 80	113.2	13231	99.5,99.5
85	5.489	5.796	6.332	6.214	5.836	5.249	5.199	5.358	80- 85	57.50	13288	99.9,99.9
90	0.6676	0.6724	0.6769	0.7393	0.5981	0.6952	0.7365	0.6979	85- 90	12.60	13301	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 10808 lm

%lum = 81.3%

%lamp = 81.3%

Conical surface Flux(120deg): 12398 lm

%lum = 93.2%

%lamp = 93.2%

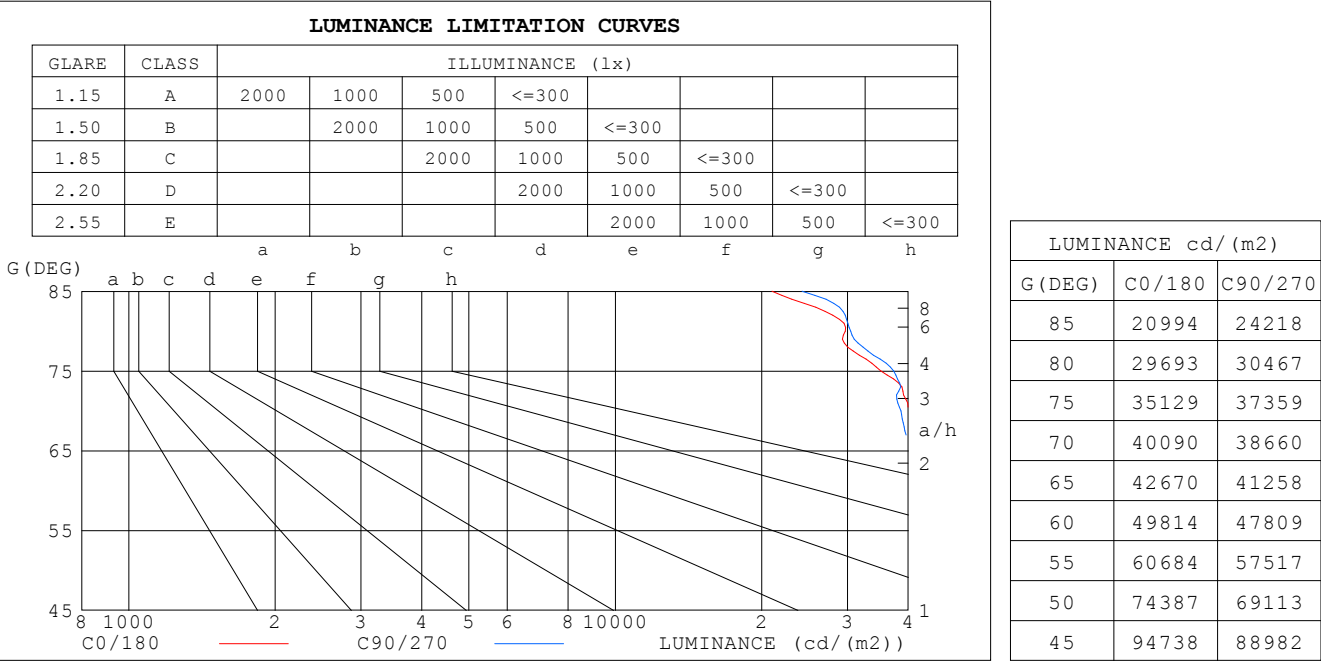
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C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LI
Test Date:2019-12-23

Checker: LI

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:

Assessor:

LUMINANCE LIMITATION CURVES



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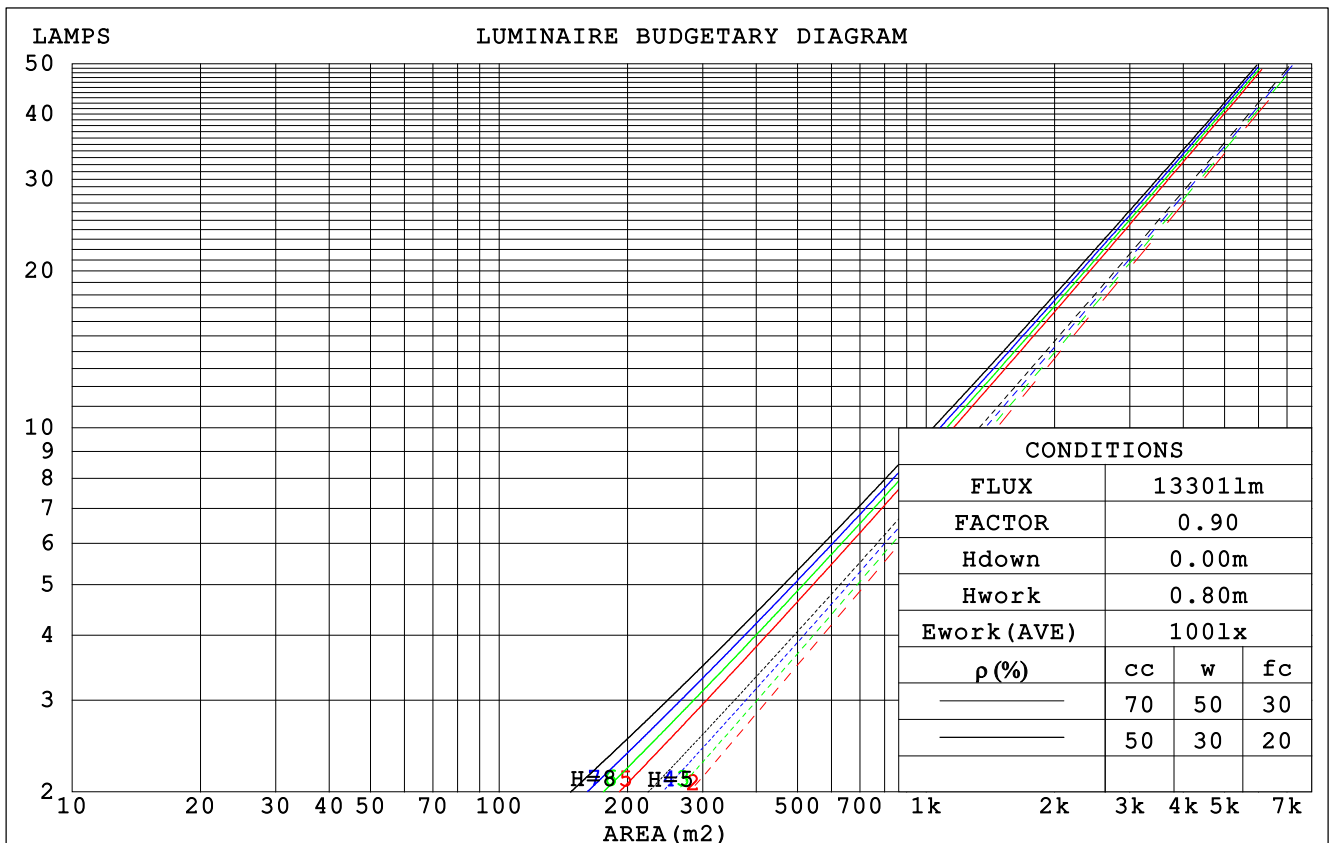
Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.09	1.05	1.03	1.06	1.04	1.01	1.02	.00	.98	.98	.97	.95	.95	.94	.92	.90
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.90	.84	.80	.89	.83	.79	.86	.82	.78	.84	.80	.76	.81	.78	.75	.73
4.0	.83	.77	.71	.82	.76	.71	.80	.74	.70	.78	.73	.69	.76	.72	.68	.67
5.0	.77	.70	.65	.76	.69	.64	.74	.68	.64	.72	.67	.63	.70	.66	.63	.61
6.0	.71	.64	.59	.70	.64	.59	.69	.63	.59	.67	.62	.58	.66	.61	.58	.56
7.0	.66	.59	.54	.66	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.53	.52
8.0	.62	.55	.50	.61	.55	.50	.60	.54	.50	.59	.54	.50	.58	.53	.50	.48
9.0	.58	.51	.47	.57	.51	.47	.56	.51	.47	.56	.50	.46	.55	.50	.46	.45
10.0	.55	.48	.44	.54	.48	.44	.53	.47	.43	.52	.47	.43	.52	.47	.43	.42



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 Remarks:

Checker: LI

Assessor:

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	.220	.125	.040	.214	.122	.039	.201	.115	.037	.189	.109	.035	.178	.103	.033															
2.0	.211	.115	.035	.205	.113	.035	.194	.108	.033	.184	.103	.032	.174	.099	.031															
3.0	.199	.106	.032	.194	.104	.031	.184	.100	.030	.175	.096	.029	.167	.093	.029															
4.0	.187	.097	.029	.183	.096	.028	.174	.092	.028	.167	.089	.027	.159	.087	.026															
5.0	.176	.090	.026	.172	.088	.026	.165	.086	.025	.158	.083	.025	.152	.081	.024															
6.0	.166	.083	.024	.163	.082	.024	.156	.080	.023	.150	.078	.023	.145	.076	.023															
7.0	.157	.078	.022	.154	.077	.022	.148	.075	.022	.143	.073	.021	.138	.072	.021															
8.0	.149	.073	.020	.146	.072	.020	.141	.070	.020	.136	.069	.020	.132	.068	.020															
9.0	.141	.068	.019	.139	.068	.019	.134	.066	.019	.130	.065	.019	.126	.064	.018															
10.0	.134	.064	.018	.132	.064	.018	.128	.063	.018	.124	.062	.018	.121	.061	.017															

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	.174	.157	.141	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.161	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.151	.114	.084	.129	.098	.073	.089	.068	.051	.051	.040	.030	.016	.013	.010	
4.0	.142	.100	.068	.121	.086	.059	.084	.060	.041	.048	.035	.024	.016	.011	.008	
5.0	.133	.088	.055	.115	.077	.048	.079	.053	.034	.046	.031	.020	.015	.010	.007	
6.0	.126	.079	.046	.108	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006	
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.039	.024	.012	.013	.008	.004	
9.0	.108	.061	.029	.093	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.103	.057	.026	.089	.049	.022	.062	.035	.016	.036	.020	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
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 Operators:LI
 Test Date:2019-12-23

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:

Checker: LI

Assessor:

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	25.2	26.3	25.4	26.5	26.7	24.9	26.0	25.1	26.2	26.4
3H	25.9	26.9	26.1	27.1	27.3	25.6	26.6	25.8	26.8	27.0
4H	26.2	27.2	26.4	27.4	27.6	25.9	26.9	26.2	27.1	27.4
6H	26.3	27.3	26.6	27.5	27.8	26.1	27.1	26.4	27.3	27.6
8H	26.4	27.3	26.7	27.5	27.8	26.2	27.1	26.5	27.4	27.6
12H	26.4	27.2	26.7	27.5	27.8	26.2	27.1	26.6	27.4	27.7
4H 2H	25.4	26.4	25.7	26.6	26.8	25.1	26.1	25.4	26.3	26.6
3H	26.2	27.1	26.6	27.4	27.7	26.0	26.9	26.3	27.1	27.4
4H	26.7	27.5	27.0	27.8	28.1	26.5	27.3	26.8	27.6	27.9
6H	26.9	27.6	27.3	28.0	28.3	26.8	27.5	27.2	27.8	28.2
8H	27.0	27.7	27.4	28.0	28.4	26.9	27.6	27.3	27.9	28.3
12H	27.1	27.6	27.5	28.0	28.4	27.0	27.6	27.4	27.9	28.3
8H 4H	26.8	27.4	27.2	27.8	28.2	26.6	27.3	27.0	27.6	28.0
6H	27.1	27.7	27.6	28.1	28.5	27.0	27.6	27.5	28.0	28.4
8H	27.3	27.8	27.7	28.2	28.6	27.2	27.7	27.7	28.1	28.5
12H	27.4	27.8	27.8	28.2	28.7	27.3	27.7	27.8	28.2	28.6
12H 4H	26.8	27.4	27.2	27.7	28.1	26.6	27.2	27.0	27.6	28.0
6H	27.2	27.6	27.6	28.0	28.5	27.0	27.5	27.5	27.9	28.4
8H	27.3	27.7	27.8	28.2	28.6	27.2	27.6	27.7	28.1	28.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.8					+ 0.6 / - 0.7				
1.5H	+ 0.8 / - 0.5					+ 0.6 / - 0.5				
2.0H	+ 1.2 / - 0.9					+ 1.1 / - 0.8				

CIE Pub.117 Corrected 13301 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.0)

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
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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:

Checker: LI

Assessor:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	76	67	62	75	67	62	74	67	62	57
0.80	84	76	71	84	76	71	82	75	71	66
1.00	91	83	78	90	83	78	88	83	77	72
1.25	96	89	84	95	88	84	93	87	83	78
1.50	100	93	88	98	92	88	96	91	87	81
2.00	104	98	94	102	97	93	99	95	92	85
2.50	106	101	97	105	100	96	101	97	94	88
3.00	108	104	100	107	102	99	103	100	97	90
4.00	111	107	104	109	106	103	105	102	100	93
5.00	113	110	107	111	108	105	106	104	102	94
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

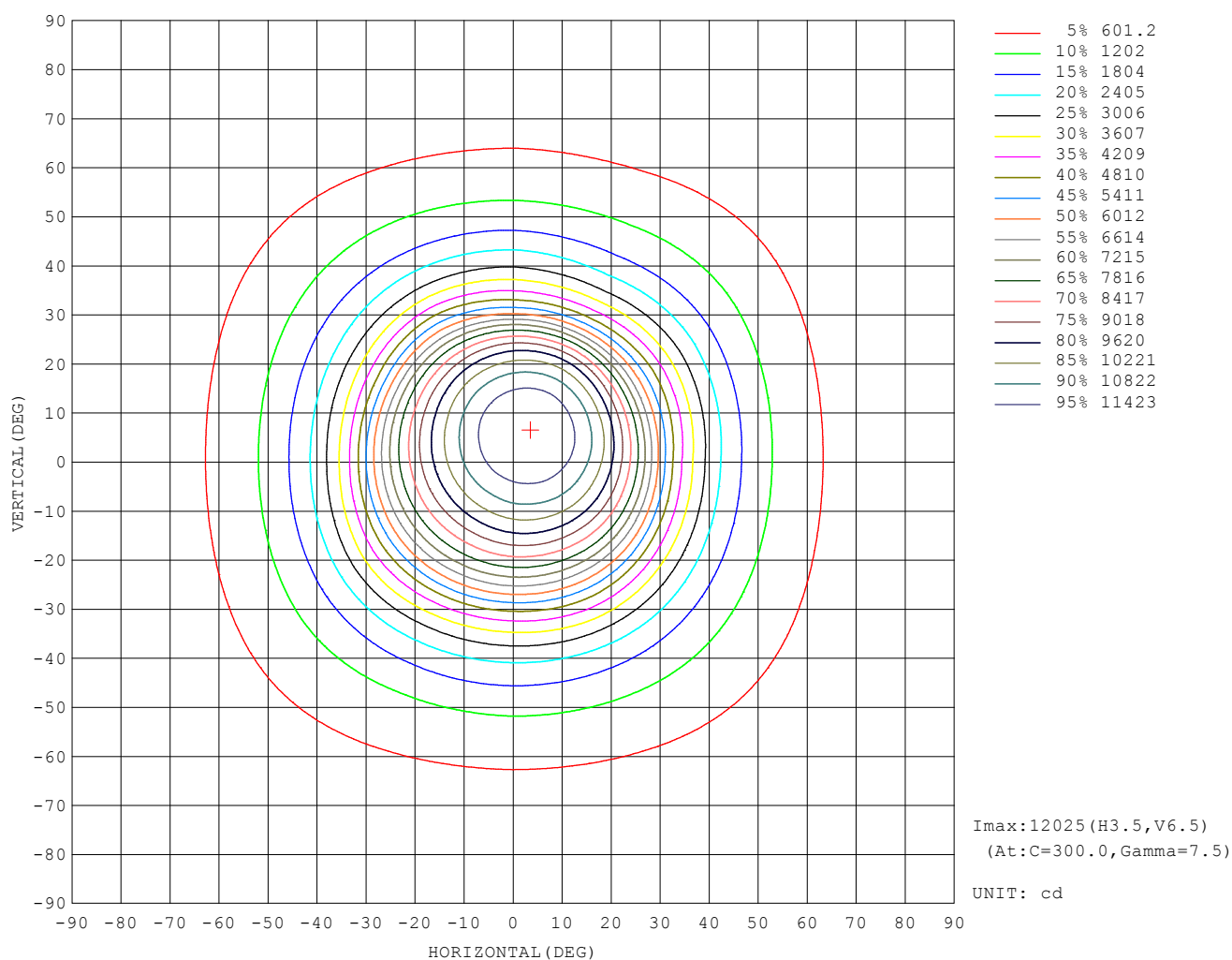
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 Remarks:

Assessor:

ISOCANDELA DIAGRAM



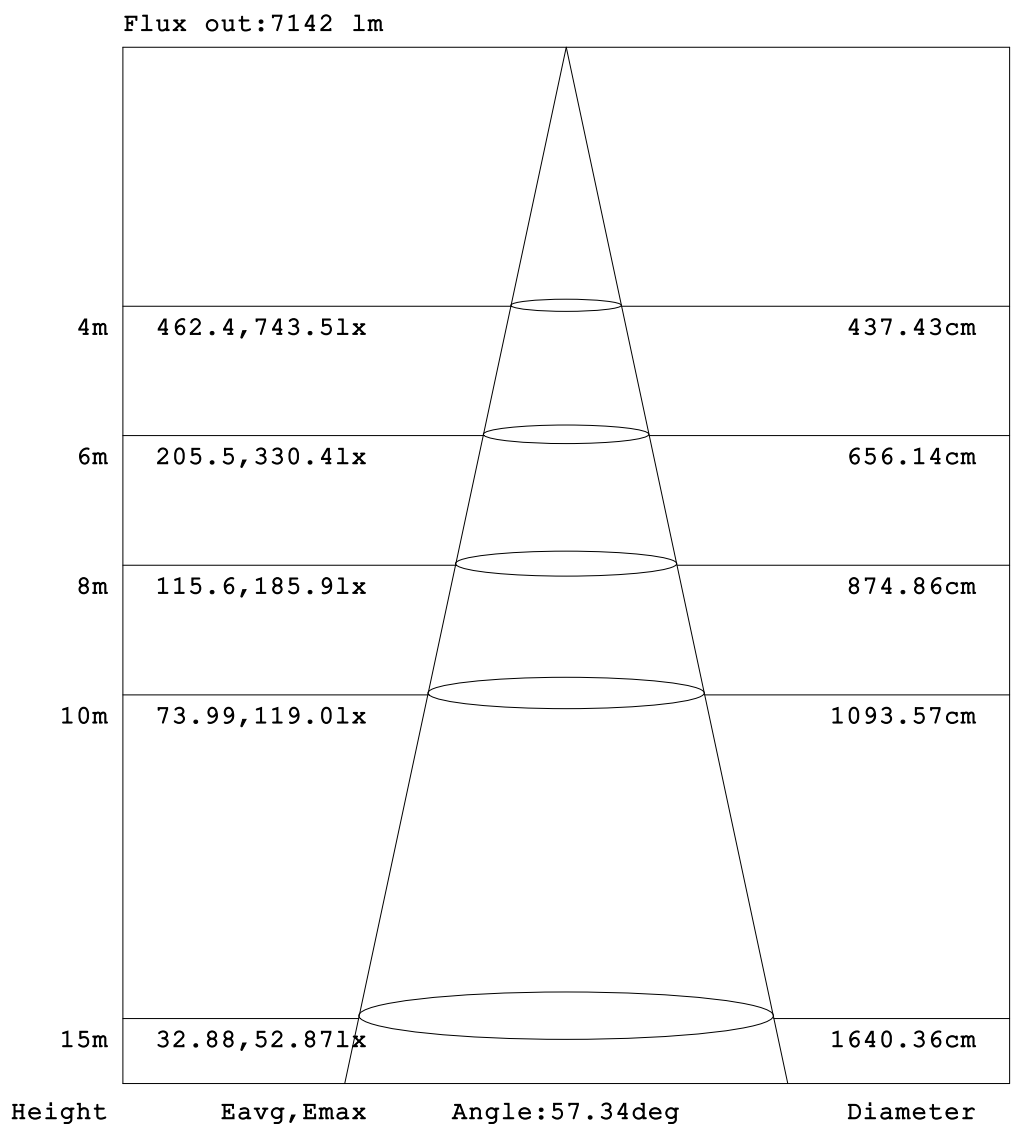
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Remarks:

Assessor:

AAI Figure



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

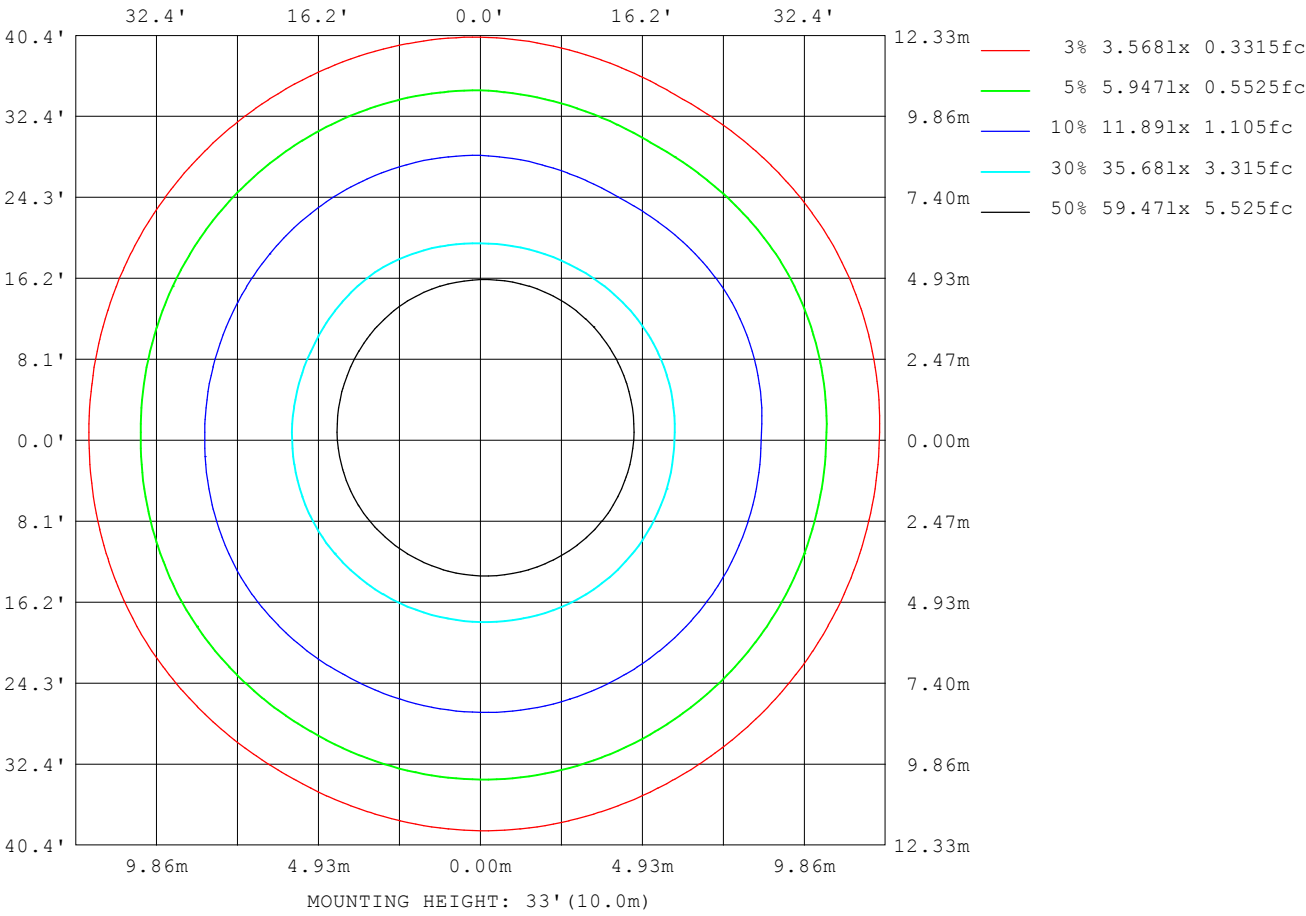
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 Remarks:

Checker: LI

Assessor:

ISOLUX DIAGRAM



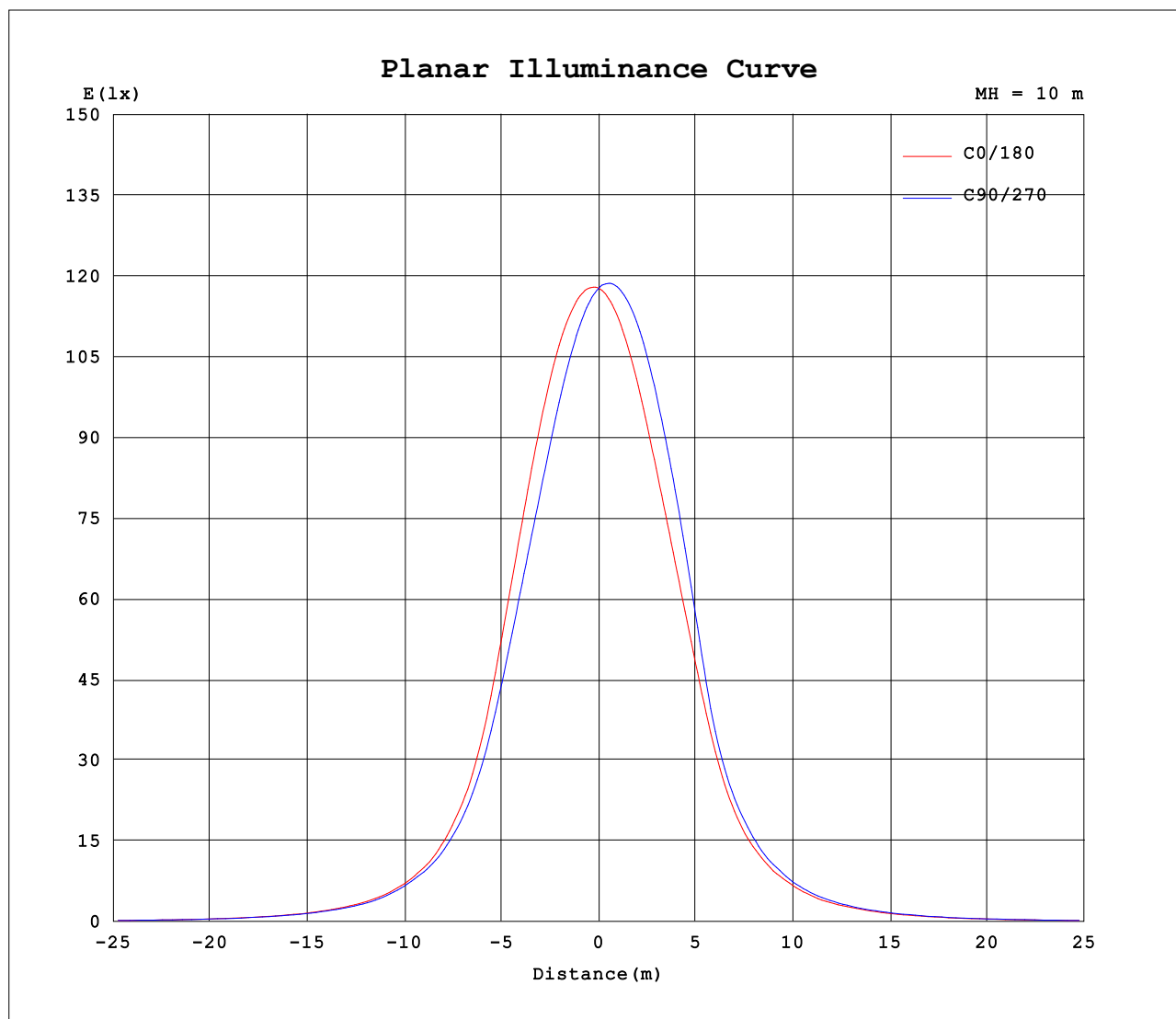
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Planar Illuminance Curve



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