

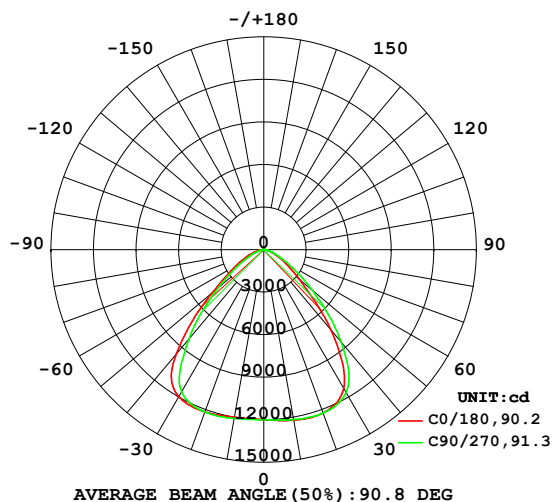
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

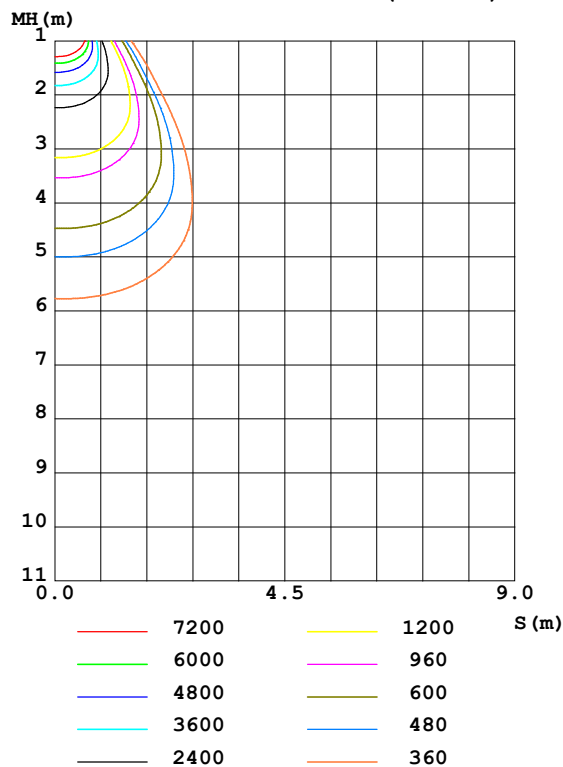
Test:U:230.0V I:0.8600A P:194.3W PF:0.9825 Lamp Flux:25699.9x1 lm		
NAME: HB38-200-5070-H00123	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:φ0.246	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.27 lm/W			
MODEL	RF303	Imax(cd)	12317	S/MH(C0/180)	1.35
NOMINAL POWER(W)	200	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	25700	η UP,DN(C0-180)	0.0,50.5
NOMINAL FLUX(lm)	25699.9	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35

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:
Test Date:2019-11-22

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:9.470m [K=1.0000]
Remarks:

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	1209	1209	1206	1200	1195	1197	1201	1206	0- 5	287.1	287.1	1.12,1.12
10	1222	1222	1217	1208	1200	1202	1208	1216	5- 10	864.0	1151	4.48,4.48
15	1229	1230	1226	1218	1209	1211	1217	1223	10- 15	1443	2595	10.1,10.1
20	1225	1228	1226	1223	1217	1218	1218	1221	15- 20	2014	4609	17.9,17.9
25	1199	1206	1210	1215	1217	1214	1205	1200	20- 25	2552	7161	27.9,27.9
30	1129	1143	1162	1186	1198	1188	1158	1138	25- 30	3007	10168	39.6,39.6
35	964.2	991.1	1044	1107	1133	1103	1027	979.4	30- 35	3268	13436	52.3,52.3
40	736.4	774.8	847.6	918.6	958.7	888.8	820.3	750.8	35- 40	3142	16578	64.5,64.5
45	499.7	551.6	640.5	688.6	714.1	660.9	612.7	526.8	40- 45	2671	19249	74.9,74.9
50	333.0	370.0	448.2	484.3	478.5	447.9	422.3	363.0	45- 50	2061	21310	82.9,82.9
55	228.3	245.3	303.9	333.6	319.5	298.9	276.4	246.5	50- 55	1503	22813	88.8,88.8
60	156.9	168.9	196.5	222.9	221.4	198.9	179.3	163.1	55- 60	1064	23877	92.9,92.9
65	104.5	112.3	122.7	145.3	153.1	130.3	111.8	106.0	60- 65	735.7	24613	95.8,95.8
70	66.94	71.67	76.54	92.29	101.8	82.13	67.18	63.93	65- 70	491.8	25105	97.7,97.7
75	38.73	43.25	45.16	55.88	63.24	49.75	38.10	35.57	70- 75	310.8	25416	98.9,98.9
80	18.15	21.67	24.03	31.38	34.12	26.55	18.32	16.87	75- 80	180.8	25596	99.6,99.6
85	3.343	6.322	9.358	13.23	14.29	9.844	5.082	3.325	80- 85	84.96	25681	99.9,99.9
90	1.145	1.071	0.8720	0.9000	0.9354	0.9406	1.226	0.9885	85- 90	18.61	25700	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): 19249 lm

%lum = 74.9%

%lamp = 74.9%

Conical surface Flux(120deg): 23877 lm

%lum = 92.9%

%lamp = 92.9%

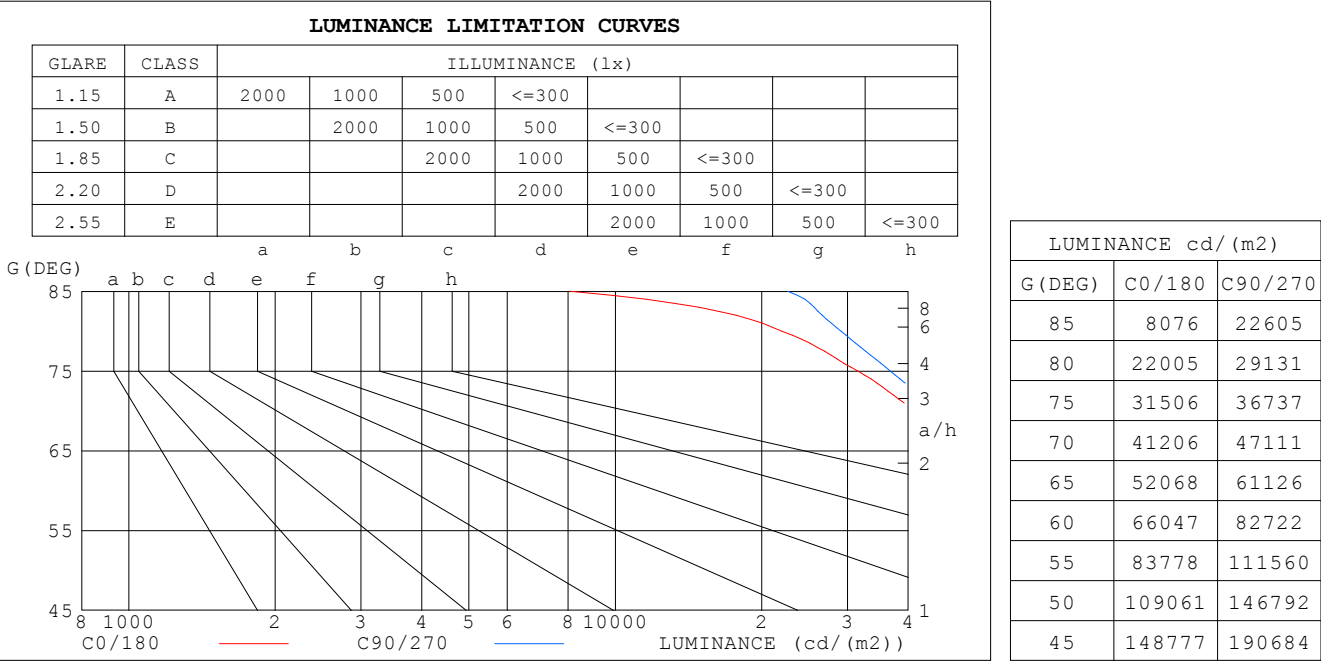
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-11-22

γ Range: 0 - 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:

Checker: LI

Assessor:

LUMINANCE LIMITATION CURVES



C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2019-11-22

Checker: LI

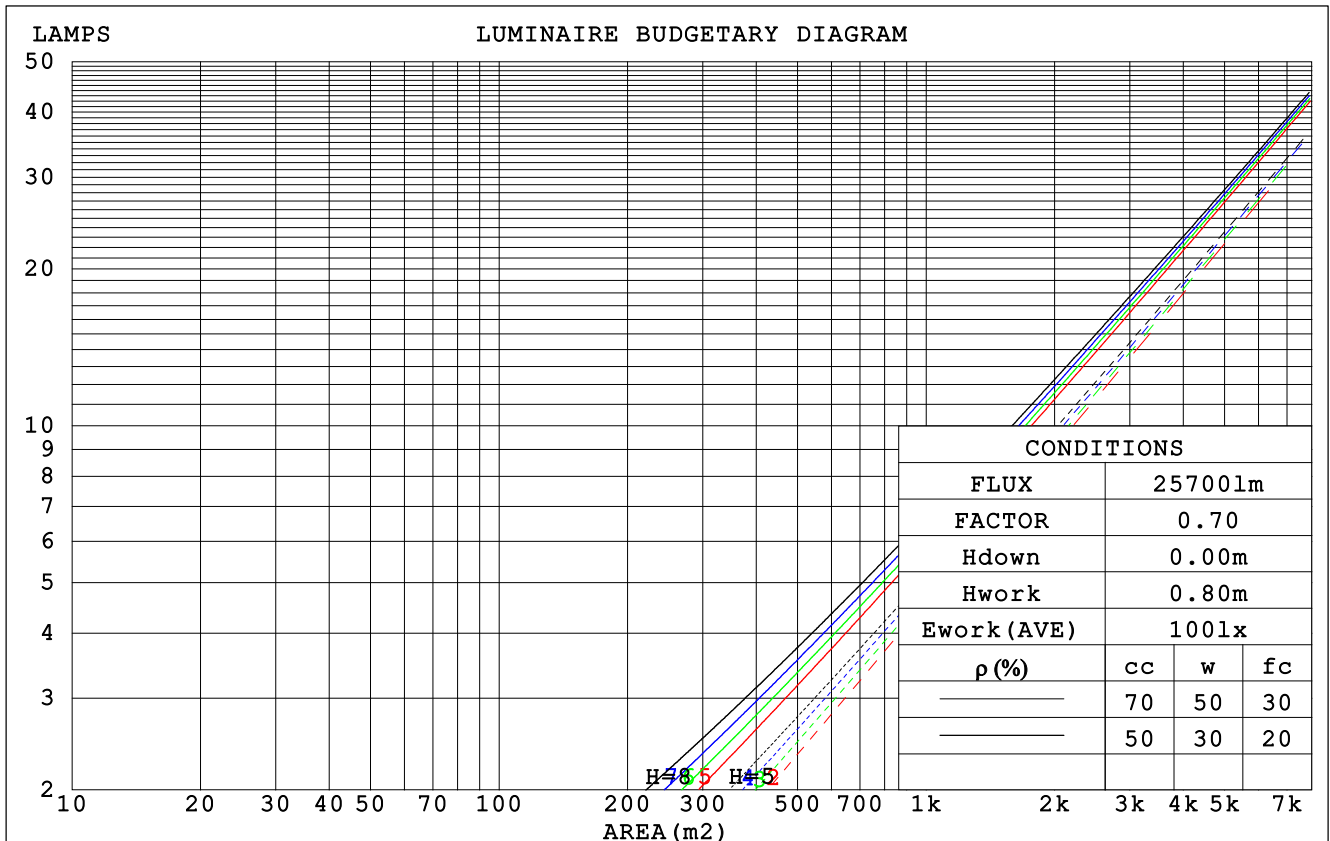
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=1.0000]
Remarks:

Assessor:

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	1.04	1.01	1.05	1.02	.00	1.01	.99	.97	.97	.95	.94	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.92	.87	.84	.88	.85	.82	.86	.83	.80	.78
3.0	.87	.81	.75	.86	.80	.75	.83	.78	.73	.80	.76	.72	.78	.74	.71	.69
4.0	.79	.72	.66	.78	.71	.65	.75	.69	.65	.73	.68	.64	.71	.67	.63	.61
5.0	.72	.64	.58	.71	.63	.58	.69	.62	.57	.67	.61	.57	.65	.60	.56	.54
6.0	.65	.58	.52	.64	.57	.52	.63	.56	.51	.61	.55	.51	.60	.55	.51	.49
7.0	.60	.52	.47	.59	.52	.47	.58	.51	.46	.56	.50	.46	.55	.50	.46	.44
8.0	.55	.47	.42	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.45	.41	.40
9.0	.51	.43	.38	.50	.43	.38	.49	.43	.38	.48	.42	.38	.47	.42	.38	.36
10.0	.47	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.35	.44	.39	.35	.33



C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2019-11-22

γ Range: 0 - 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:

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	.238	.135	.043	.231	.132	.042	.218	.125	.040	.206	.119	.038	.195	.113	.037															
2.0	.231	.127	.039	.225	.124	.038	.214	.119	.037	.204	.114	.036	.194	.110	.035															
3.0	.220	.117	.035	.214	.115	.035	.205	.111	.034	.196	.107	.033	.187	.104	.032															
4.0	.208	.108	.032	.203	.106	.031	.194	.103	.031	.186	.100	.030	.179	.097	.030															
5.0	.196	.100	.029	.192	.099	.029	.184	.096	.028	.177	.094	.028	.171	.091	.027															
6.0	.185	.093	.027	.181	.092	.026	.175	.089	.026	.168	.087	.026	.162	.085	.025															
7.0	.175	.086	.024	.172	.085	.024	.166	.084	.024	.160	.082	.024	.155	.080	.024															
8.0	.165	.081	.023	.163	.080	.023	.157	.078	.022	.152	.077	.022	.147	.076	.022															
9.0	.157	.076	.021	.154	.075	.021	.149	.074	.021	.145	.073	.021	.140	.071	.021															
10.0	.149	.071	.020	.147	.071	.020	.142	.070	.020	.138	.068	.019	.134	.067	.019															

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	.140	.150	.135	.121	.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	.155	.114	.081	.133	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010		
4.0	.147	.100	.065	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008		
5.0	.139	.089	.052	.120	.077	.045	.082	.054	.032	.048	.032	.019	.015	.010	.006		
6.0	.133	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005		
7.0	.126	.074	.036	.109	.064	.032	.075	.045	.023	.044	.026	.013	.014	.009	.004		
8.0	.121	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.012	.014	.008	.004		
9.0	.115	.063	.027	.099	.054	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003		
10.0	.110	.058	.024	.095	.051	.021	.066	.036	.015	.038	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2019-11-22

γ Range: 0 - 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:

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	27.4	28.7	27.6	28.9	29.0	28.3	29.6	28.5	29.7	29.9
3H	27.6	28.8	27.9	29.0	29.3	28.6	29.8	28.9	30.0	30.2
4H	27.7	28.8	28.0	29.0	29.3	28.7	29.8	29.0	30.0	30.3
6H	27.7	28.7	28.0	29.0	29.3	28.7	29.7	29.0	30.0	30.2
8H	27.7	28.7	28.0	28.9	29.2	28.7	29.7	29.0	29.9	30.2
12H	27.6	28.6	28.0	28.9	29.2	28.6	29.6	29.0	29.9	30.2
4H 2H	27.5	28.6	27.8	28.8	29.1	28.3	29.4	28.6	29.6	29.9
3H	27.8	28.8	28.2	29.1	29.4	28.7	29.7	29.0	29.9	30.2
4H	28.0	28.8	28.3	29.1	29.5	28.8	29.7	29.2	30.0	30.3
6H	28.0	28.8	28.4	29.1	29.5	28.9	29.7	29.3	30.0	30.4
8H	28.0	28.7	28.4	29.1	29.4	28.9	29.6	29.3	30.0	30.4
12H	28.0	28.6	28.4	29.0	29.4	28.9	29.6	29.3	30.0	30.4
8H 4H	28.0	28.7	28.4	29.0	29.4	28.8	29.5	29.2	29.9	30.3
6H	28.1	28.6	28.5	29.0	29.5	28.9	29.5	29.4	29.9	30.3
8H	28.1	28.6	28.5	29.0	29.5	29.0	29.5	29.4	29.9	30.4
12H	28.1	28.5	28.5	28.9	29.4	29.0	29.4	29.5	29.9	30.4
12H 4H	27.9	28.6	28.4	29.0	29.4	28.8	29.4	29.2	29.8	30.2
6H	28.0	28.6	28.5	29.0	29.4	28.9	29.4	29.4	29.8	30.3
8H	28.1	28.5	28.5	28.9	29.4	29.0	29.4	29.4	29.8	30.3
Variations with the observer position at spacings:										
S = 1.0H	+ 1.1 / - 1.7					+ 0.9 / - 1.3				
1.5H	+ 1.2 / - 1.2					+ 1.0 / - 1.1				
2.0H	+ 2.3 / - 2.0					+ 2.5 / - 2.1				

CIE Pub.117 Corrected 25700 lm Total Lamp Luminous Flux. (8log(F/F0) = 11.3)

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-11-22

γ Range: 0 - 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:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	69	59	54	68	59	54	67	59	53	48
0.80	79	70	64	78	69	64	76	69	63	58
1.00	87	78	72	85	77	72	84	78	71	66
1.25	93	85	79	91	84	79	89	83	78	72
1.50	97	89	84	95	89	84	93	87	83	77
2.00	102	96	91	100	95	90	97	92	89	82
2.50	105	99	95	103	98	94	99	95	92	85
3.00	107	102	98	105	101	97	102	98	95	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	104	105	103	101	92
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

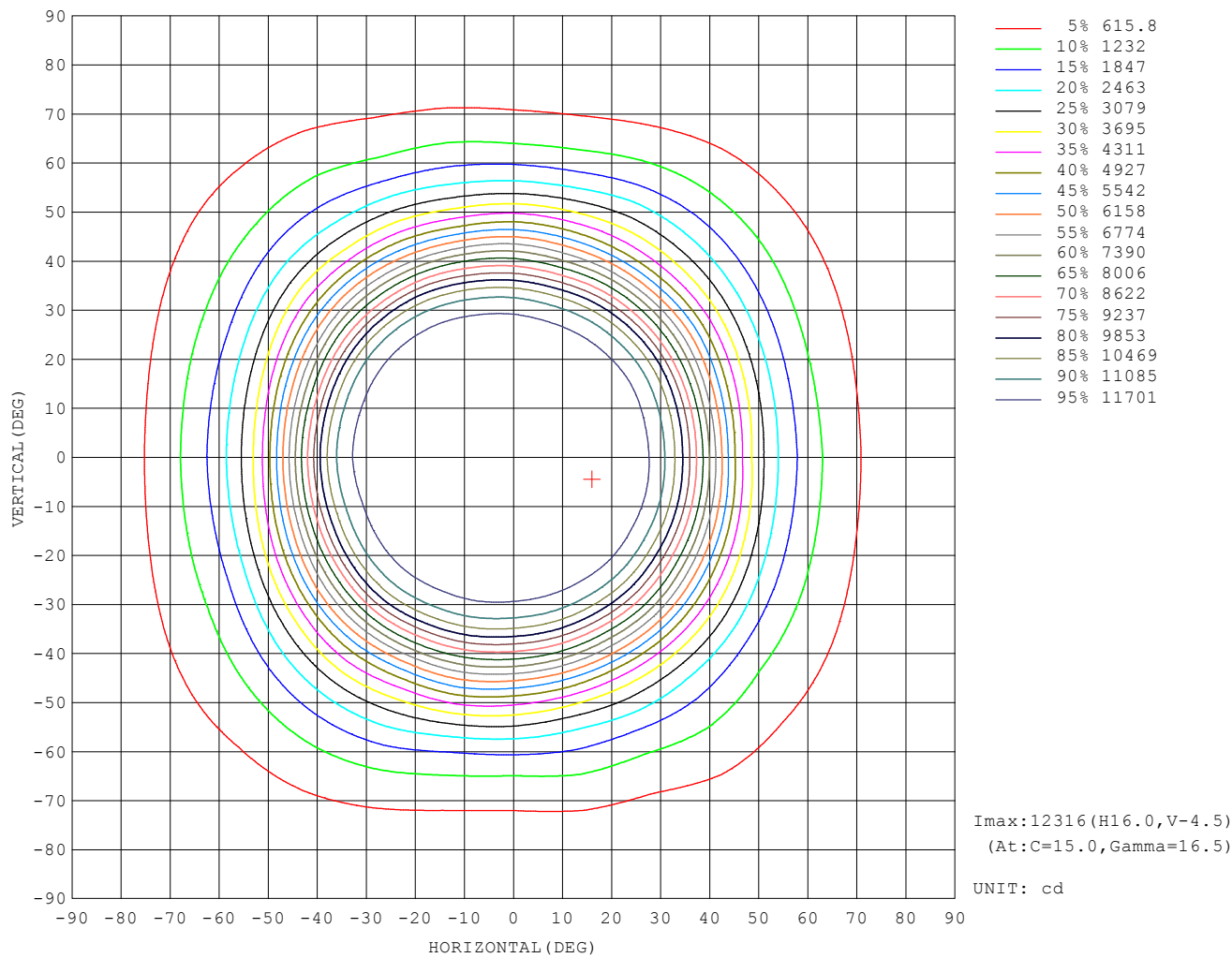
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 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=1.0000]
 Remarks:

Assessor:

ISOCANDELA DIAGRAM



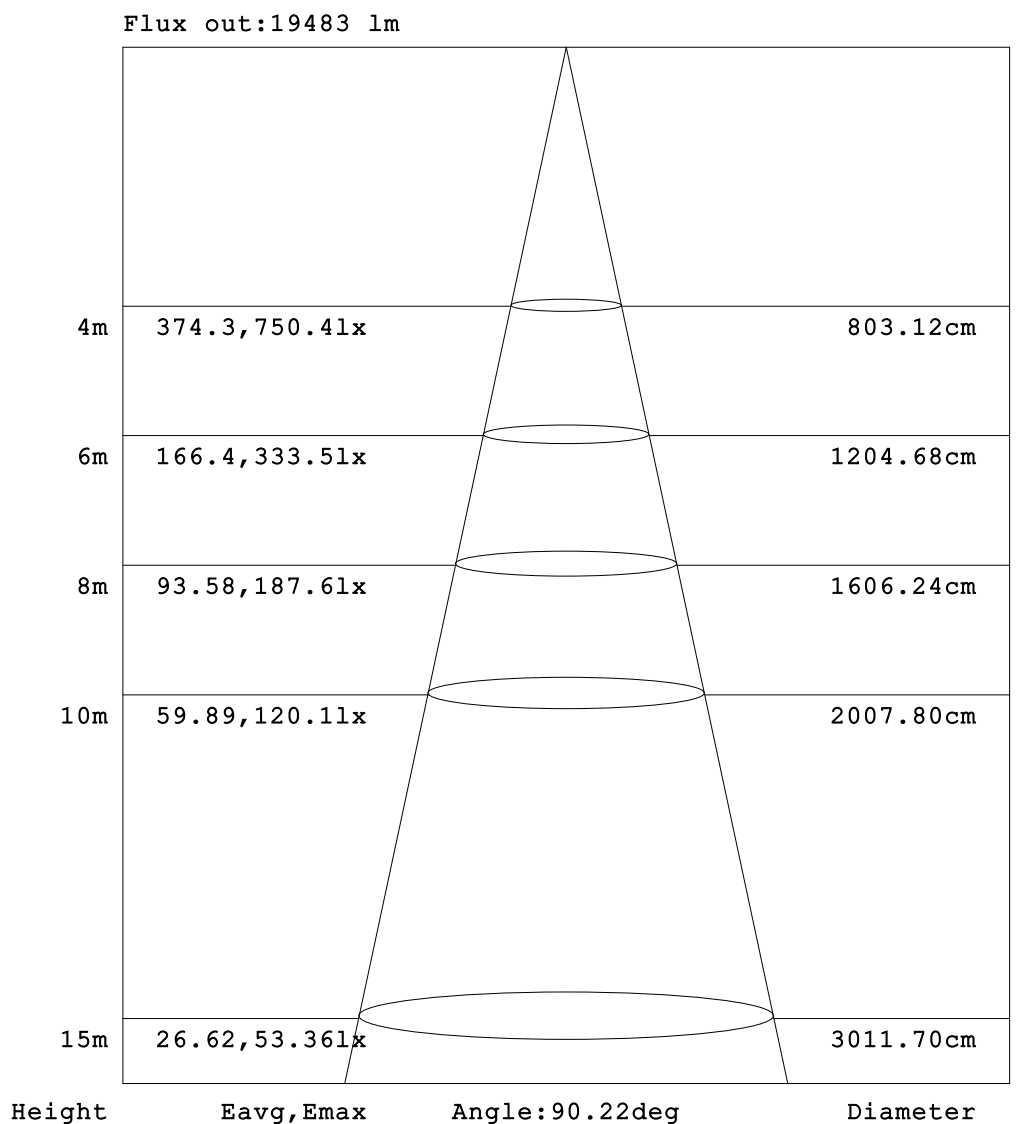
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Test Distance:9.470m [K=1.0000]
Remarks:

Checker: LI

Assessor:

AAI Figure



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

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
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Operators:
Test Date: 2019-11-22

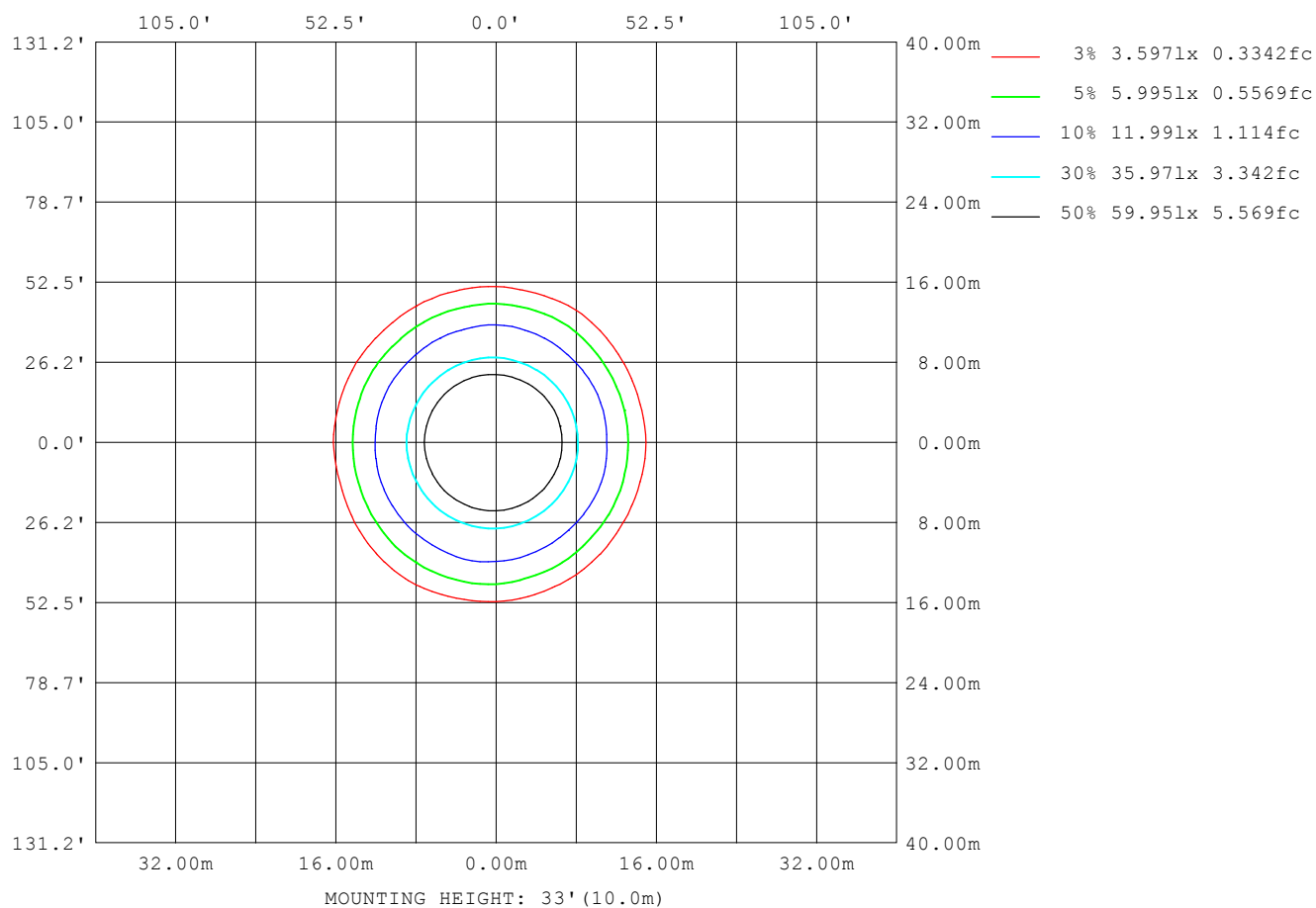
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]
Remarks:

Checker: LI

Assessor:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM



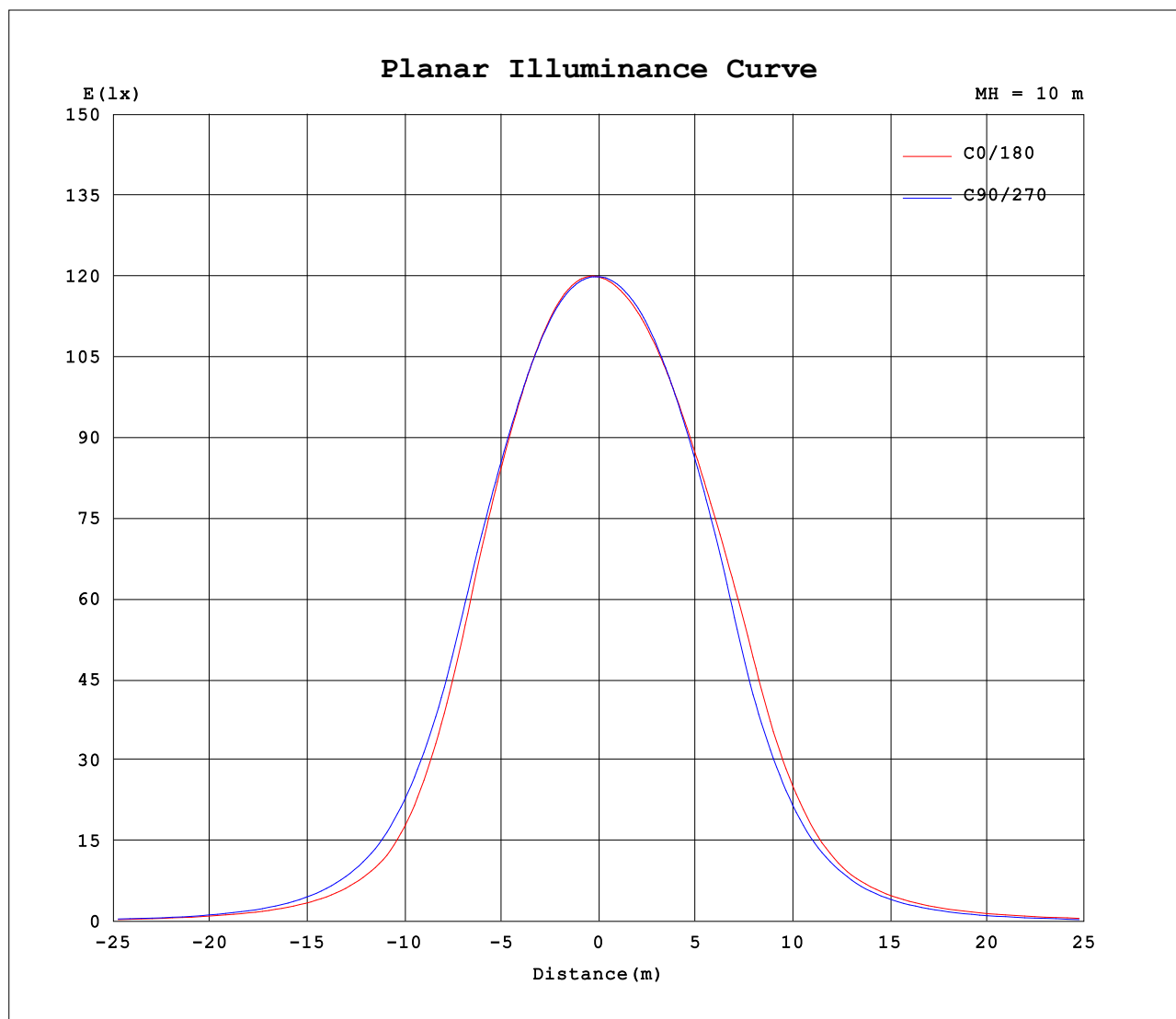
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Test Speed: HIGH
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Operators:
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 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=1.0000]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

Assessor:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2019-11-22

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: 9.470m [K=1.0000]
Remarks:

Assessor: