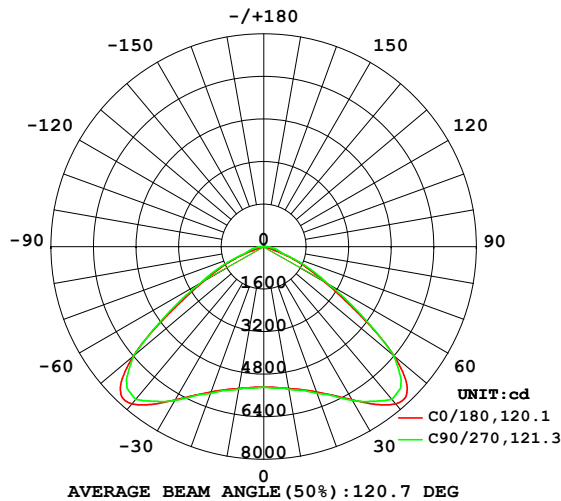


LUMINAIRE PHOTOMETRIC TEST REPORT

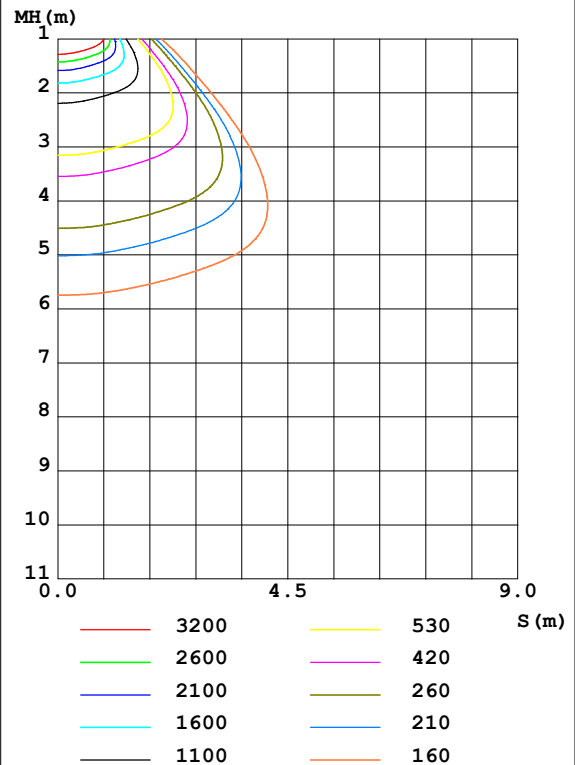
Test:U:229.9V I:0.6478A P:147.5W PF:0.9906 Lamp Flux:21229.8x1 lm		
NAME: LHB01-150H	TYPE:150W	WEIGHT:
SPEC.:5000K Ra80 L06403	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 143.89 lm/W			
MODEL	LHB01-150H	I _{max} (cd)	7792	S/MH(C0/180)	1.81
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.81
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	21230	η UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	21229.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.75

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.500m [K=1.0000]
 Remarks:

Checker:

Assessor:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	5320	5340	5344	5340	5320	5343	5344	5343	0- 5	127.1	127.1	0.60,0.60
10	5417	5423	5443	5423	5417	5435	5443	5435	5- 10	385.3	512.5	2.41,2.41
15	5571	5593	5599	5593	5571	5621	5599	5621	10- 15	654.6	1167	5.5,5.5
20	5819	5818	5866	5818	5819	5865	5866	5865	15- 20	942.6	2110	9.94,9.94
25	6172	6165	6198	6165	6172	6227	6198	6227	20- 25	1262	3372	15.9,15.9
30	6654	6634	6674	6634	6654	6692	6674	6692	25- 30	1627	4999	23.5,23.5
35	7230	7177	7104	7177	7230	7200	7104	7200	30- 35	2043	7042	33.2,33.2
40	7718	7633	7504	7633	7718	7606	7504	7606	35- 40	2473	9515	44.8,44.8
45	7632	7386	7295	7386	7632	7376	7295	7376	40- 45	2810	12325	58.1,58.1
50	6404	6420	6393	6420	6404	6399	6393	6399	45- 50	2822	15147	71.4,71.4
55	4270	4461	4463	4461	4270	4319	4463	4319	50- 55	2338	17485	82.4,82.4
60	2647	2799	2775	2799	2647	2758	2775	2758	55- 60	1620	19105	90,90
65	1602	1722	1753	1722	1602	1696	1753	1696	60- 65	1072	20177	95,95
70	512.6	847.7	731.8	847.7	512.6	817.8	731.8	817.8	65- 70	604.2	20781	97.9,97.9
75	125.0	222.6	550.4	222.6	125.0	226.9	550.4	226.9	70- 75	229.9	21011	99,99
80	66.21	110.2	368.9	110.2	66.21	114.7	368.9	114.7	75- 80	120.7	21132	99.5,99.5
85	20.81	57.95	187.5	57.95	20.81	59.89	187.5	59.89	80- 85	71.70	21204	99.9,99.9
90	6.089	6.786	6.058	6.786	6.089	6.997	6.058	6.997	85- 90	26.11	21230	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:cd									UNIT:lm		

Conical surface Flux(90deg): 12325 lm

%lum = 58.1%

%lamp = 58.1%

Conical surface Flux(120deg): 19105 lm

%lum = 90.0%

%lamp = 90.0%

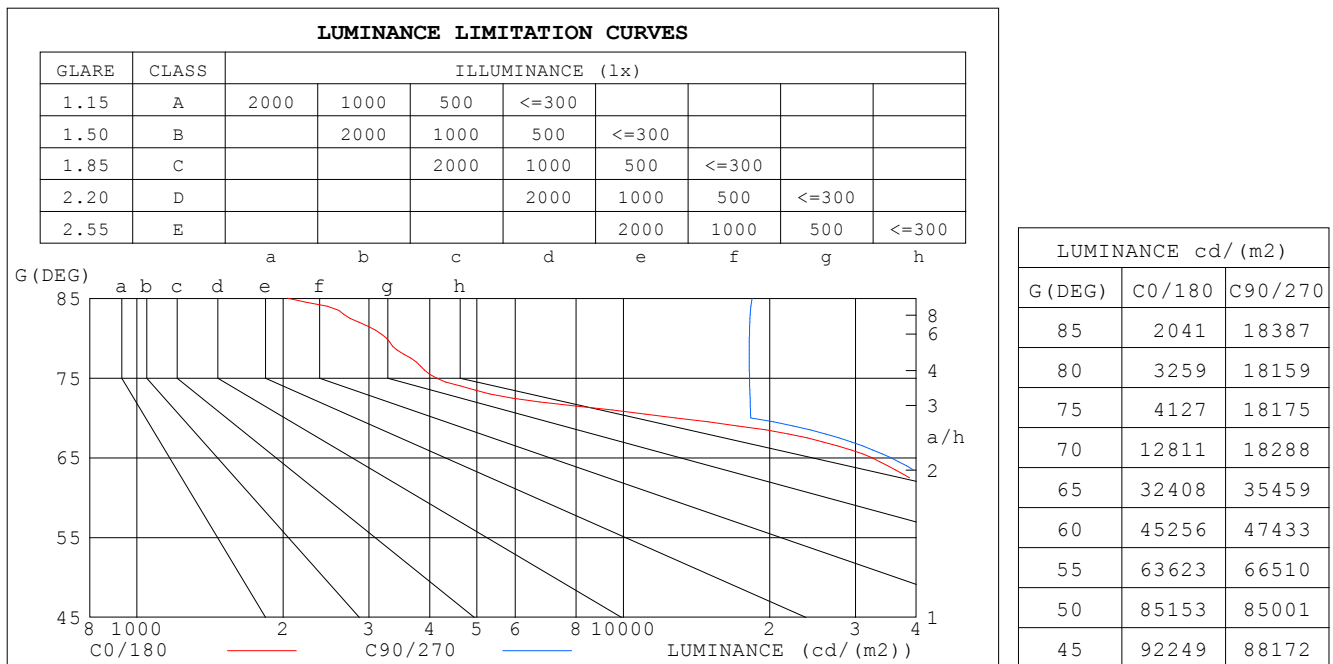
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-10-10

Checker:

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.500m [K=1.0000]
 Remarks:

Assessor:

LUMINANCE LIMITATION CURVES



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-10-10

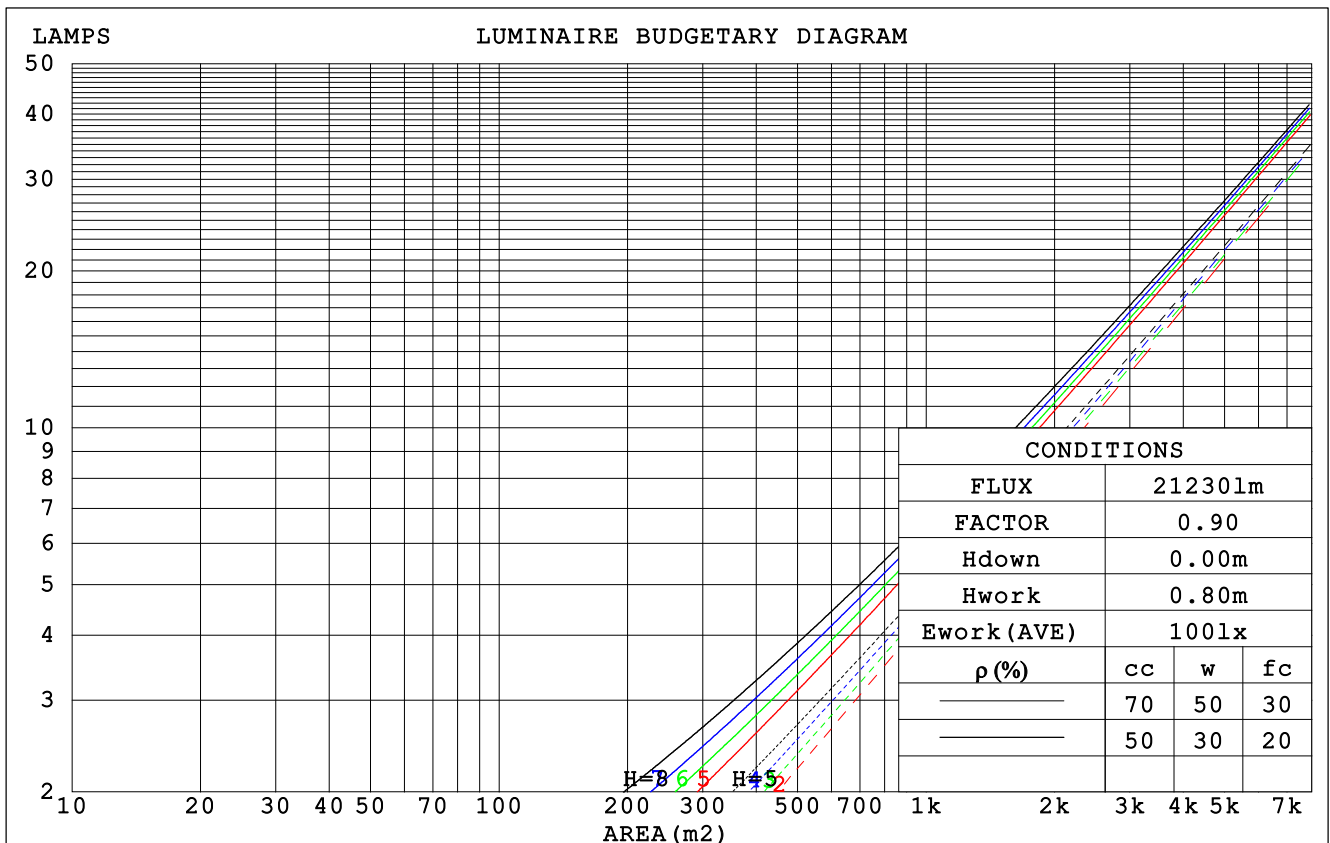
Checker:

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

Assessor:

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	1.06	1.02	.99	1.04	1.01	.97	.00	.97	.94	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.87	.82	.92	.86	.81	.88	.83	.79	.85	.81	.78	.82	.79	.76	.74
3.0	.82	.75	.69	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.68	.65	.63
4.0	.73	.65	.58	.72	.64	.58	.69	.62	.57	.67	.61	.56	.65	.60	.55	.53
5.0	.65	.56	.50	.64	.56	.49	.62	.54	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.54	.47	.42	.52	.46	.42	.40
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.47	.39	.33	.46	.38	.33	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.29	.27
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.500m [K=1.0000]
 Remarks:

Checker:

Assessor:

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	.267	.152	.048	.260	.148	.047	.247	.142	.045	.235	.135	.043	.224	.130	.042	
2.0	.262	.144	.044	.256	.141	.043	.245	.136	.042	.234	.131	.041	.224	.127	.040	
3.0	.250	.133	.040	.245	.131	.039	.235	.127	.039	.225	.123	.038	.217	.120	.037	
4.0	.236	.123	.036	.231	.121	.036	.222	.118	.035	.214	.115	.035	.206	.112	.034	
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.202	.107	.032	.195	.104	.031	
6.0	.209	.105	.030	.205	.104	.030	.198	.101	.029	.191	.099	.029	.185	.097	.029	
7.0	.196	.097	.027	.193	.096	.027	.186	.094	.027	.180	.092	.027	.175	.091	.027	
8.0	.185	.090	.025	.181	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.021	

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.168	.132	.102	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.098	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

Checker:

Assessor:

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	27.7	29.2	27.9	29.4	29.6	27.7	29.2	28.0	29.4	29.6
3H	27.8	29.1	28.1	29.4	29.6	28.0	29.3	28.3	29.5	29.8
4H	27.7	29.0	28.0	29.2	29.5	28.0	29.3	28.3	29.5	29.8
6H	27.6	28.8	27.9	29.1	29.3	28.0	29.2	28.3	29.5	29.7
8H	27.5	28.7	27.9	29.0	29.3	28.0	29.2	28.3	29.4	29.7
12H	27.5	28.6	27.8	28.9	29.2	28.0	29.1	28.4	29.4	29.7
4H 2H	27.8	29.1	28.1	29.4	29.6	27.9	29.2	28.2	29.4	29.7
3H	28.0	29.1	28.3	29.4	29.7	28.2	29.3	28.5	29.5	29.8
4H	27.9	28.9	28.3	29.2	29.5	28.2	29.2	28.6	29.5	29.8
6H	27.8	28.7	28.2	29.0	29.4	28.3	29.2	28.7	29.5	29.9
8H	27.8	28.6	28.2	29.0	29.3	28.3	29.1	28.7	29.5	29.9
12H	27.8	28.5	28.2	28.9	29.3	28.4	29.1	28.8	29.5	29.9
8H 4H	27.8	28.6	28.2	29.0	29.4	28.1	28.9	28.5	29.3	29.7
6H	27.8	28.4	28.2	28.8	29.2	28.2	28.9	28.7	29.3	29.7
8H	27.7	28.3	28.2	28.7	29.2	28.3	28.9	28.8	29.3	29.7
12H	27.7	28.2	28.2	28.6	29.1	28.4	28.9	28.9	29.3	29.8
12H 4H	27.8	28.5	28.2	28.9	29.3	28.1	28.8	28.5	29.2	29.6
6H	27.7	28.3	28.2	28.7	29.2	28.2	28.8	28.6	29.2	29.6
8H	27.7	28.2	28.2	28.6	29.1	28.3	28.8	28.7	29.2	29.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.8 / - 0.9					+ 0.6 / - 0.6				
1.5H	+ 0.6 / - 1.6					+ 0.5 / - 1.4				
2.0H	+ 1.7 / - 2.2					+ 1.6 / - 2.0				

CIE Pub.117 Corrected 21230 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

Checker:

Assessor:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	54	44	37	30
0.80	68	56	49	67	56	49	65	55	48	41
1.00	78	67	60	77	67	60	74	68	59	52
1.25	86	76	69	84	75	69	82	74	68	61
1.50	91	82	75	89	81	75	86	79	74	67
2.00	98	90	84	96	89	84	93	87	82	75
2.50	101	94	89	99	93	88	96	90	86	78
3.00	104	98	93	102	97	92	98	94	90	82
4.00	108	103	99	105	101	97	101	98	94	86
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

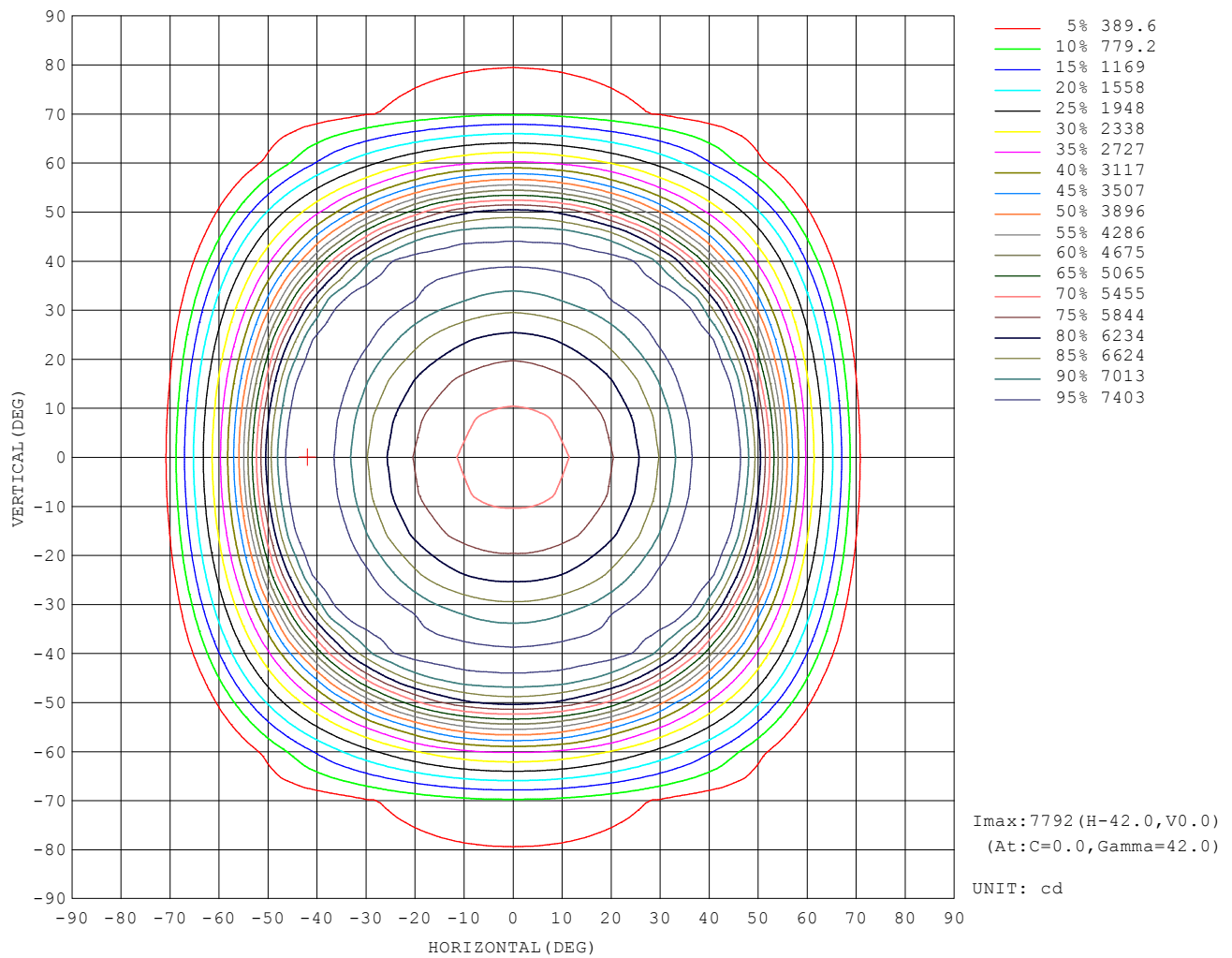
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-10-10

Checker:

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.500m [K=1.0000]
 Remarks:

Assessor:

ISOCANDELA DIAGRAM



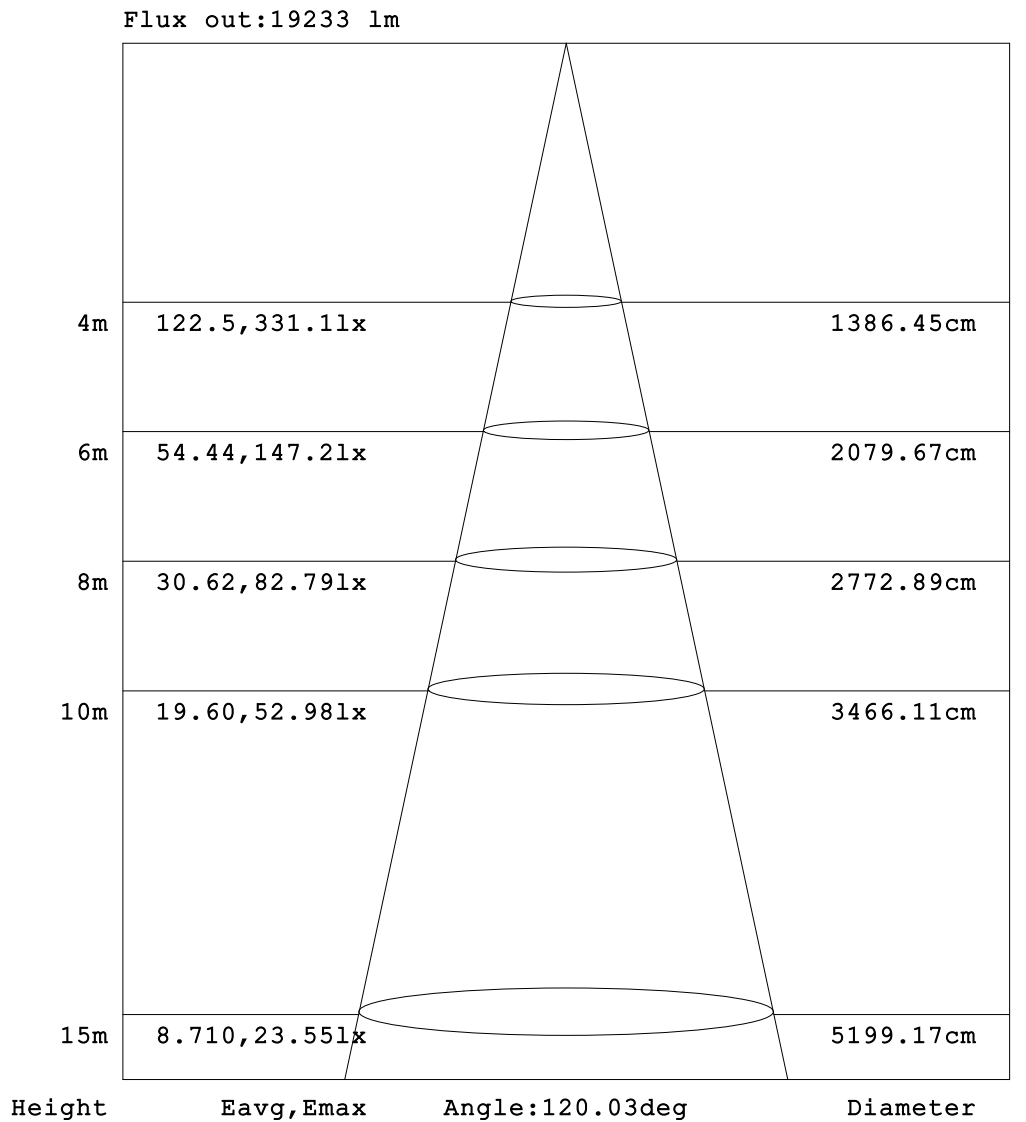
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

Checker:

Assessor:

AAI Figure



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

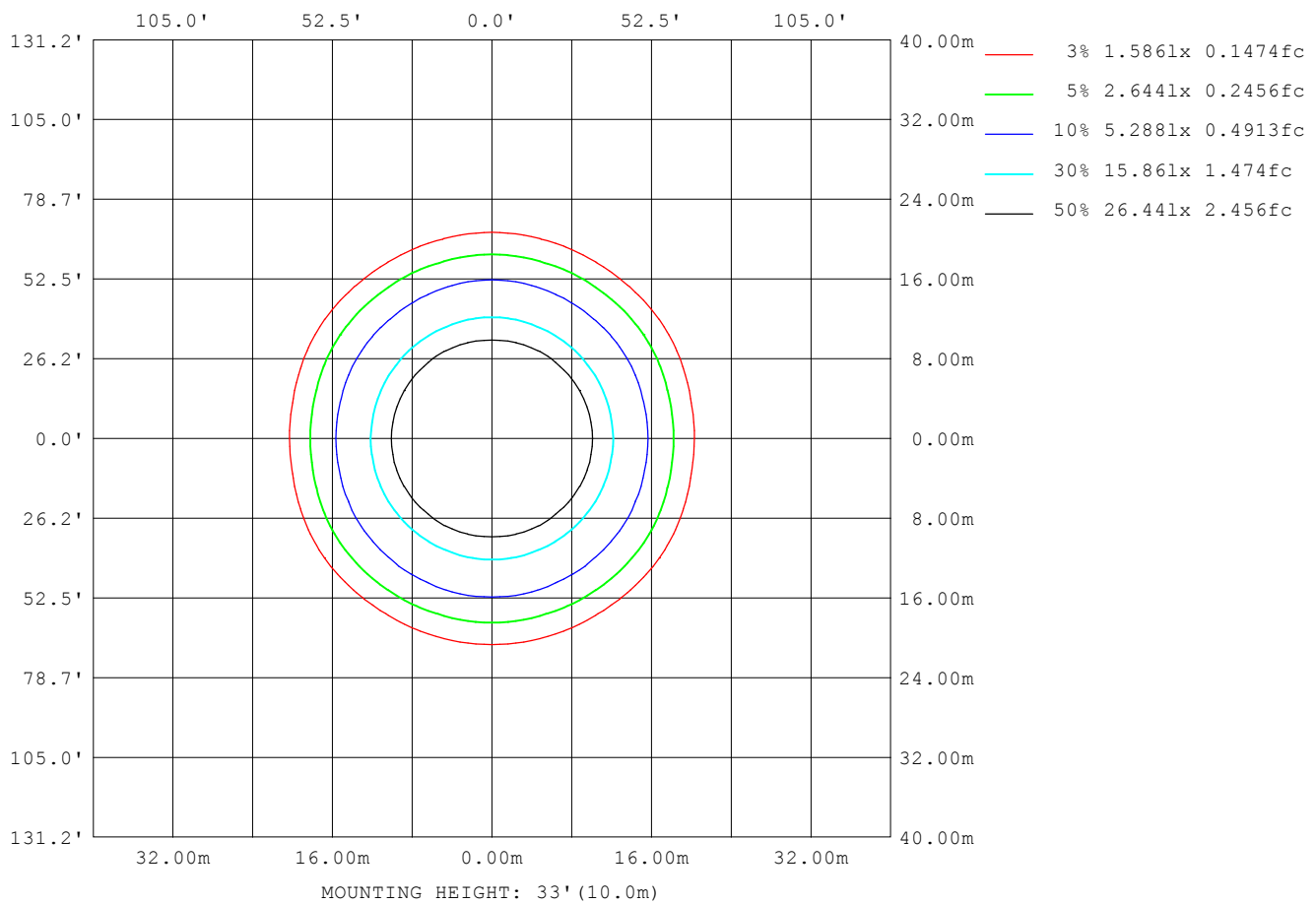
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-10-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

Checker:

Assessor:

ISOLUX DIAGRAM



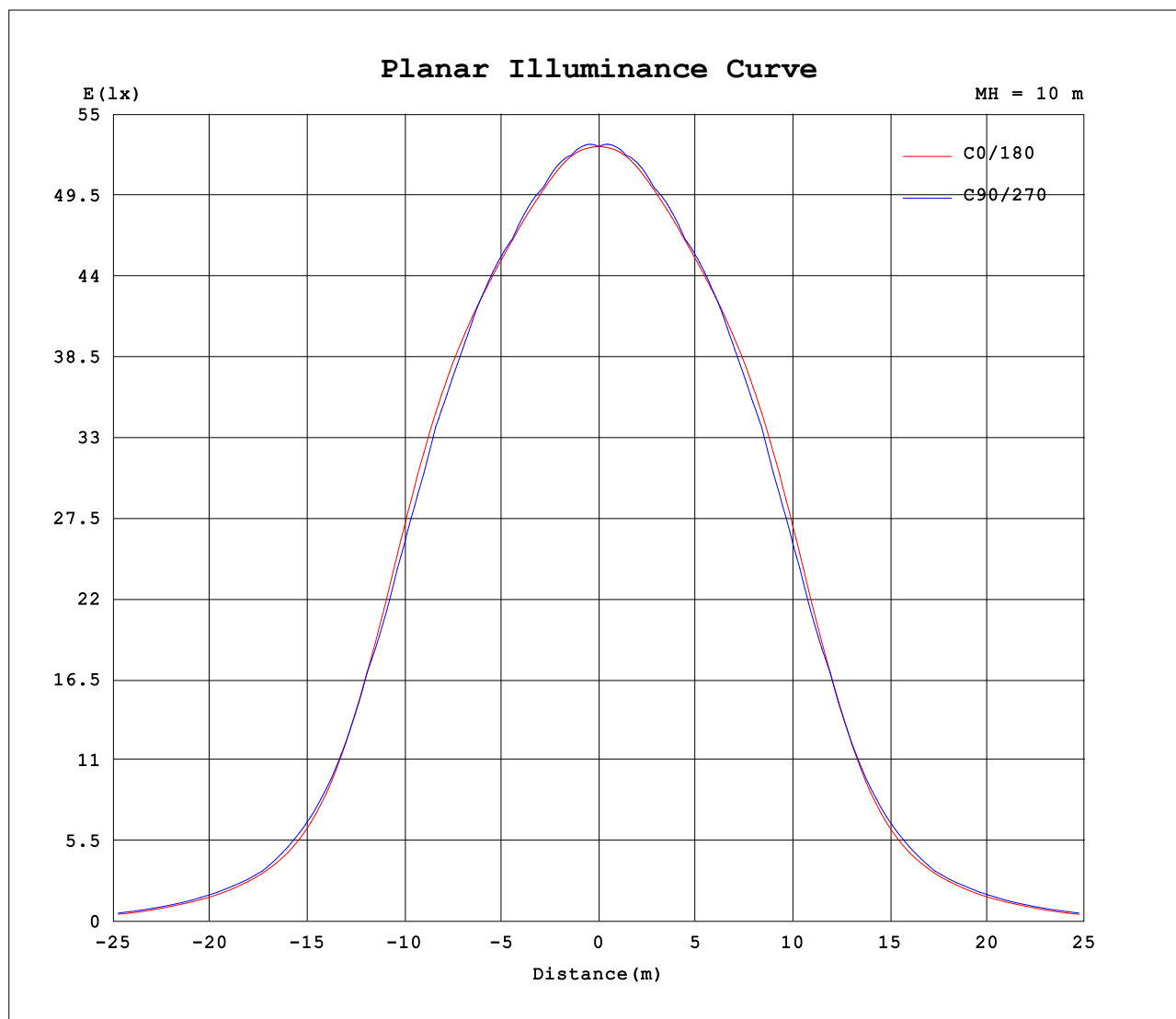
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-10-10

Checker:

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

Assessor:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-10-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

Checker:

Assessor:

Assessor:

Assessor:

Assessor:

Assessor: