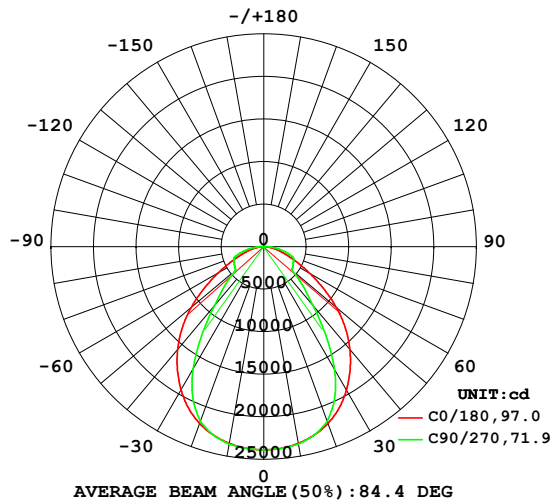


LUMINAIRE PHOTOMETRIC TEST REPORT

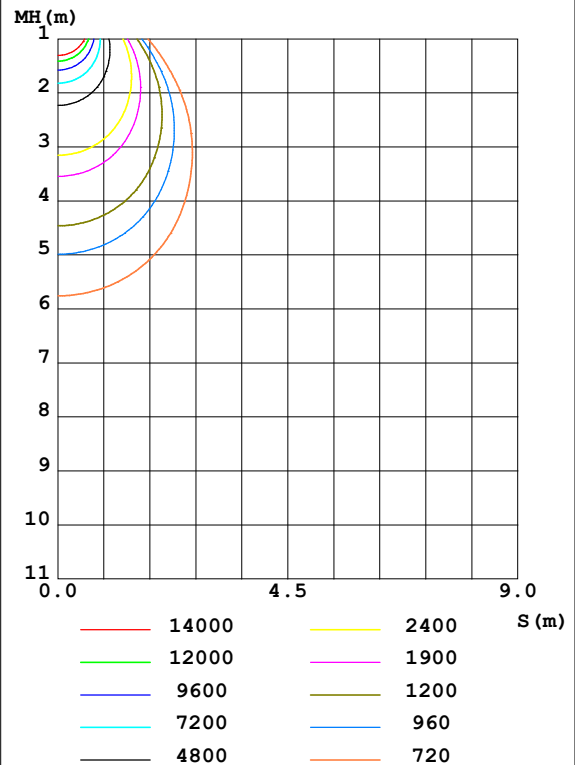
Test:U:229.8V I:1.738A P:393.7W PF:0.9857 Lamp Flux:47293.8x1 lm		
NAME: LHB03-400	TYPE:400W	WEIGHT:
SPEC.:5000K Ra80 80100DEG L00303	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 120.13 lm/W			
MODEL	LHB03-400	I _{max} (cd)	23885	S/MH (C0/180)	1.21
NOMINAL POWER(W)	400	LOR(%)	100.0	S/MH (C90/270)	1.05
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	47294	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	47293.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down (%)	100.0	CIBSE SHR MAX	1.25

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:2017-07-03

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	2378	2378	2380	2378	2378	2378	2380	2378	0- 5	569.7	569.7	1.2,1.2
10	2347	2350	2356	2350	2347	2350	2356	2350	5- 10	1691	2261	4.78,4.78
15	2292	2299	2292	2299	2292	2299	2292	2299	10- 15	2756	5017	10.6,10.6
20	2210	2214	2185	2214	2210	2213	2185	2213	15- 20	3709	8727	18.5,18.5
25	2094	2082	1971	2082	2094	2081	1971	2081	20- 25	4474	13201	27.9,27.9
30	1945	1892	1662	1892	1945	1891	1662	1891	25- 30	4949	18149	38.4,38.4
35	1771	1645	1273	1645	1771	1645	1273	1645	30- 35	5051	23201	49.1,49.1
40	1576	1346	896.9	1346	1576	1345	896.9	1345	35- 40	4776	27976	59.2,59.2
45	1360	1032	651.1	1032	1360	1031	651.1	1031	40- 45	4239	32215	68.1,68.1
50	1117	747.2	433.0	747.2	1117	745.9	433.0	745.9	45- 50	3588	35802	75.7,75.7
55	857.5	540.1	417.7	540.1	857.5	539.1	417.7	539.1	50- 55	2907	38709	81.8,81.8
60	620.6	372.4	402.3	372.4	620.6	371.5	402.3	371.5	55- 60	2375	41084	86.9,86.9
65	425.4	299.1	387.0	299.1	425.4	298.7	387.0	298.7	60- 65	1940	43024	91,91
70	283.0	221.5	371.7	221.5	283.0	221.7	371.7	221.7	65- 70	1572	44596	94.3,94.3
75	183.8	142.6	279.9	142.6	183.8	143.3	279.9	143.3	70- 75	1211	45807	96.9,96.9
80	108.1	92.93	188.1	92.93	108.1	93.31	188.1	93.31	75- 80	831.0	46638	98.6,98.6
85	42.28	48.12	96.25	48.12	42.28	48.25	96.25	48.25	80- 85	487.3	47126	99.6,99.6
90	1.556	3.834	4.449	3.834	1.556	3.754	4.449	3.754	85- 90	168.1	47294	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): 32215 lm

%lum = 68.1%

%lamp = 68.1%

Conical surface Flux(120deg): 41084 lm

%lum = 86.9%

%lamp = 86.9%

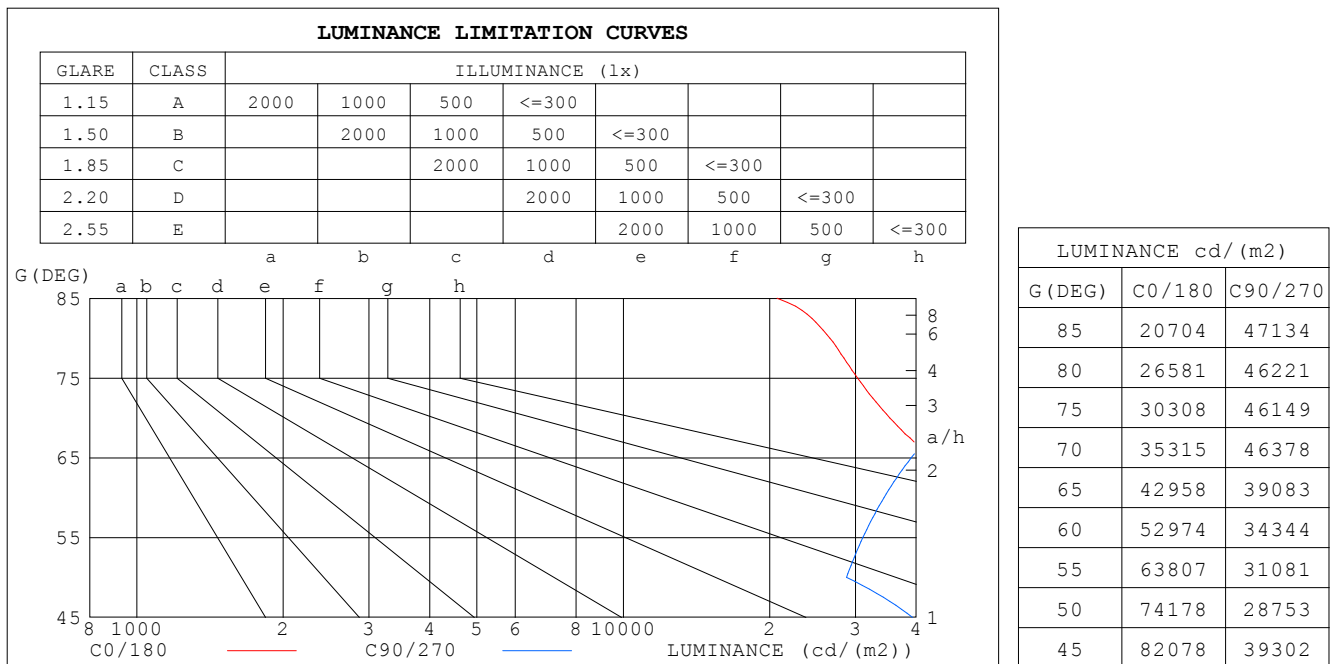
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-07-03

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: 2017-07-03

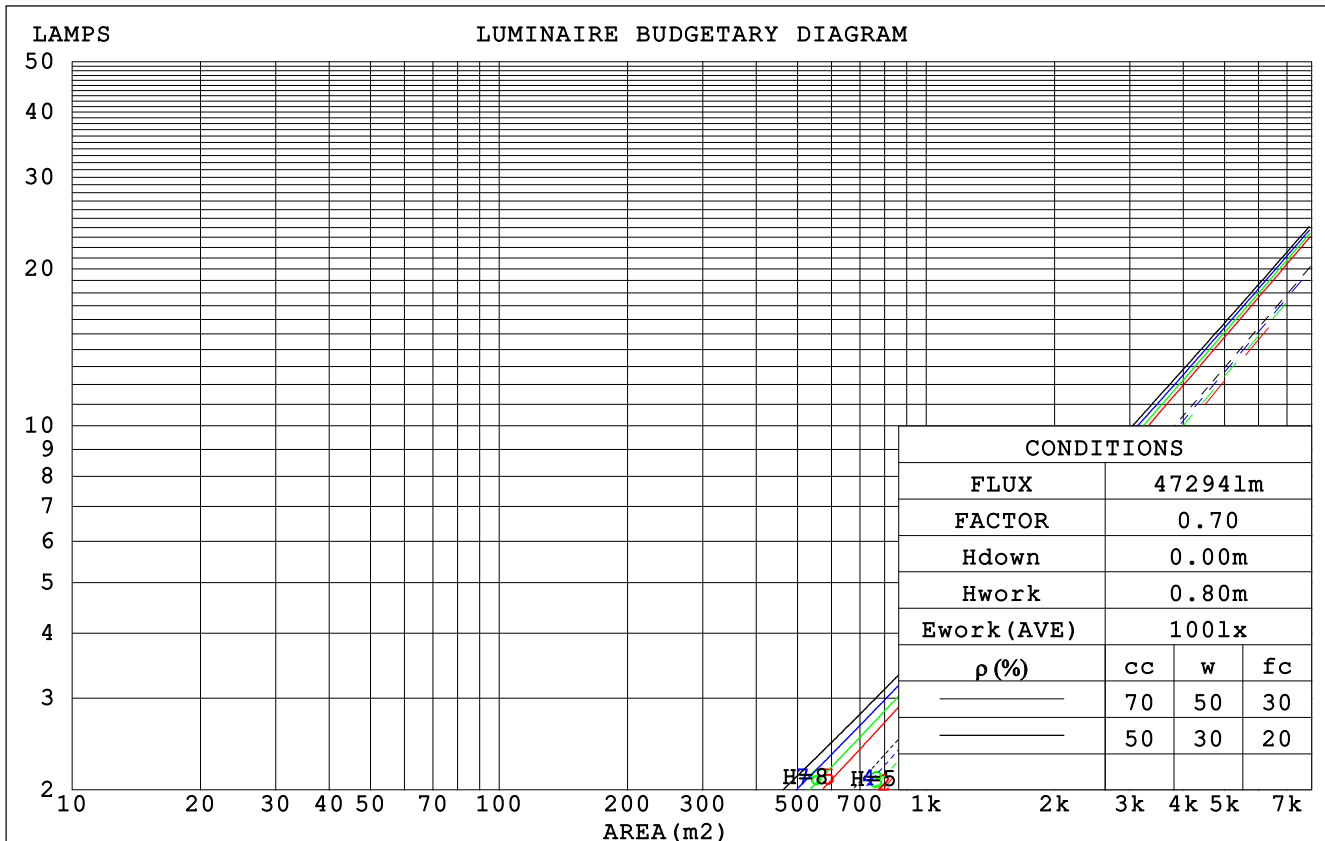
Checker:

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
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			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	1.06	1.02	.99	1.04	1.01	.97	.00	.97	.94	.96	.94	.92	.92	.90	.89	.87
2.0	.95	.89	.84	.93	.87	.83	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.85	.77	.72	.83	.76	.71	.80	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.68	.63	.75	.68	.62	.73	.66	.61	.70	.65	.60	.68	.64	.60	.58
5.0	.69	.61	.55	.68	.61	.55	.66	.59	.54	.64	.58	.54	.62	.57	.53	.51
6.0	.63	.55	.49	.62	.55	.49	.60	.54	.49	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.56	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.53	.45	.40	.51	.45	.40	.50	.44	.39	.49	.43	.39	.38
9.0	.49	.42	.37	.49	.41	.36	.48	.41	.36	.47	.40	.36	.46	.40	.36	.34
10.0	.46	.38	.33	.45	.38	.33	.44	.38	.33	.43	.37	.33	.43	.37	.33	.31



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-07-03

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	.136	.043	.224	.130	.042		
2.0	.253	.138	.042	.247	.136	.042	.235	.131	.041	.225	.126	.039	.215	.122	.038		
3.0	.236	.126	.038	.231	.124	.037	.221	.120	.036	.212	.116	.036	.203	.112	.035		
4.0	.220	.114	.034	.216	.113	.033	.207	.110	.033	.199	.107	.032	.191	.104	.032		
5.0	.206	.105	.030	.201	.103	.030	.194	.101	.030	.186	.098	.029	.180	.096	.029		
6.0	.192	.096	.028	.189	.095	.027	.182	.093	.027	.175	.091	.027	.169	.089	.026		
7.0	.181	.089	.025	.177	.088	.025	.171	.087	.025	.165	.085	.025	.160	.083	.024		
8.0	.170	.083	.023	.167	.082	.023	.161	.081	.023	.156	.079	.023	.151	.078	.023		
9.0	.160	.078	.022	.158	.077	.022	.153	.075	.021	.148	.074	.021	.144	.073	.021		
10.0	.152	.073	.020	.149	.072	.020	.145	.071	.020	.141	.070	.020	.137	.069	.020		

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	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.063	.128	.087	.054	.088	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.078	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.015	.015	.009	.005	
7.0	.129	.074	.036	.111	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.101	.055	.023	.070	.038	.017	.041	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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	26.7	28.1	27.0	28.3	28.5	23.7	25.1	24.0	25.3	25.5
3H	27.5	28.7	27.7	28.9	29.2	25.8	27.0	26.1	27.3	27.5
4H	27.7	28.9	28.0	29.1	29.4	26.8	28.0	27.1	28.3	28.5
6H	27.9	29.0	28.2	29.3	29.5	27.7	28.8	28.0	29.0	29.3
8H	27.9	29.0	28.3	29.3	29.6	28.0	29.1	28.3	29.3	29.6
12H	27.9	29.0	28.3	29.3	29.6	28.2	29.3	28.6	29.6	29.8
4H 2H	26.8	28.0	27.1	28.2	28.5	24.3	25.5	24.6	25.7	25.9
3H	27.7	28.7	28.0	29.0	29.3	26.4	27.4	26.7	27.7	28.0
4H	28.0	29.0	28.4	29.3	29.6	27.5	28.5	27.9	28.8	29.1
6H	28.3	29.2	28.7	29.5	29.9	28.6	29.4	28.9	29.7	30.1
8H	28.4	29.2	28.8	29.6	29.9	29.0	29.7	29.4	30.1	30.5
12H	28.5	29.2	28.9	29.6	30.0	29.3	30.0	29.7	30.4	30.8
8H 4H	28.1	28.9	28.5	29.3	29.6	27.6	28.4	28.1	28.8	29.2
6H	28.5	29.1	28.9	29.5	30.0	28.8	29.4	29.2	29.8	30.3
8H	28.7	29.2	29.1	29.6	30.1	29.3	29.9	29.8	30.3	30.8
12H	28.8	29.2	29.2	29.7	30.2	29.8	30.3	30.3	30.7	31.2
12H 4H	28.1	28.8	28.5	29.2	29.6	27.6	28.3	28.1	28.7	29.1
6H	28.5	29.1	29.0	29.5	30.0	28.8	29.4	29.3	29.8	30.2
8H	28.7	29.2	29.2	29.6	30.1	29.4	29.8	29.8	30.3	30.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.4 / - 0.7					+ 0.2 / - 0.4				
2.0H	+ 1.2 / - 1.4					+ 0.3 / - 0.3				

CIE Pub.117 Corrected 47294 lm Total Lamp Luminous Flux.(8log(F/F0) = 13.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	66	56	50	64	55	50	44
0.80	76	66	60	75	65	59	73	65	59	53
1.00	83	74	68	82	73	68	80	74	67	61
1.25	90	81	75	88	80	74	86	79	74	67
1.50	94	86	80	92	85	79	90	83	78	72
2.00	99	92	87	98	91	86	95	89	85	78
2.50	103	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	99	95	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

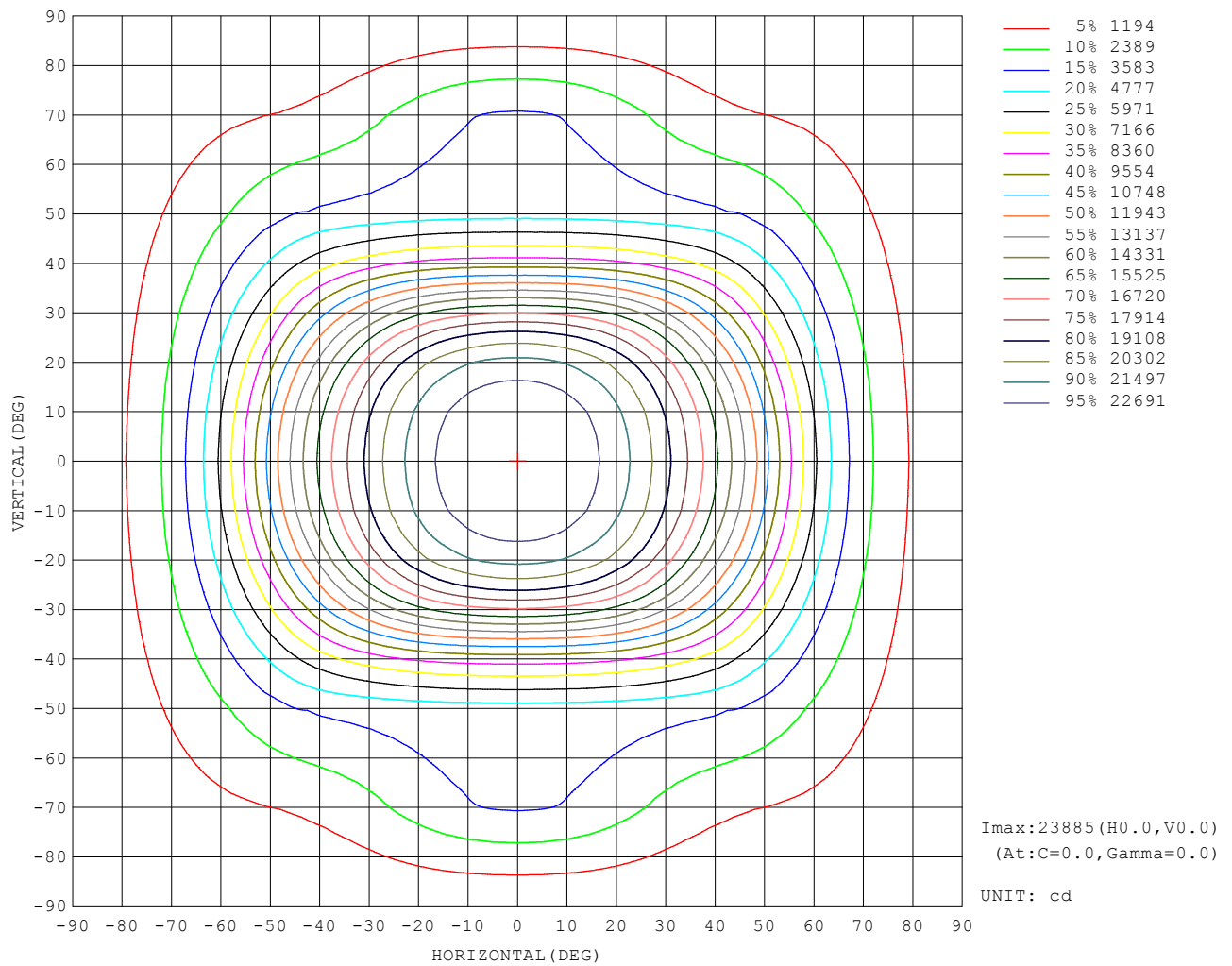
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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



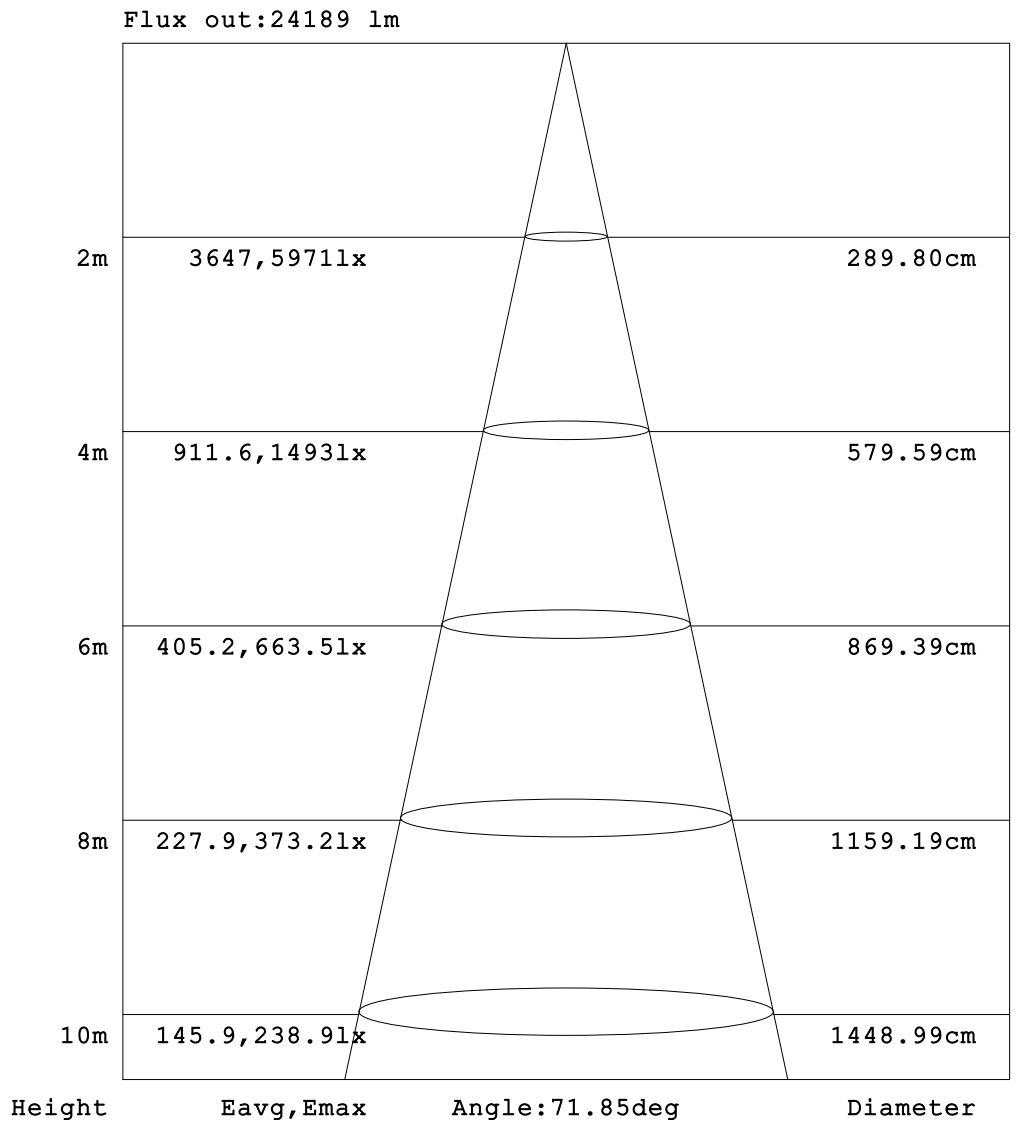
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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.

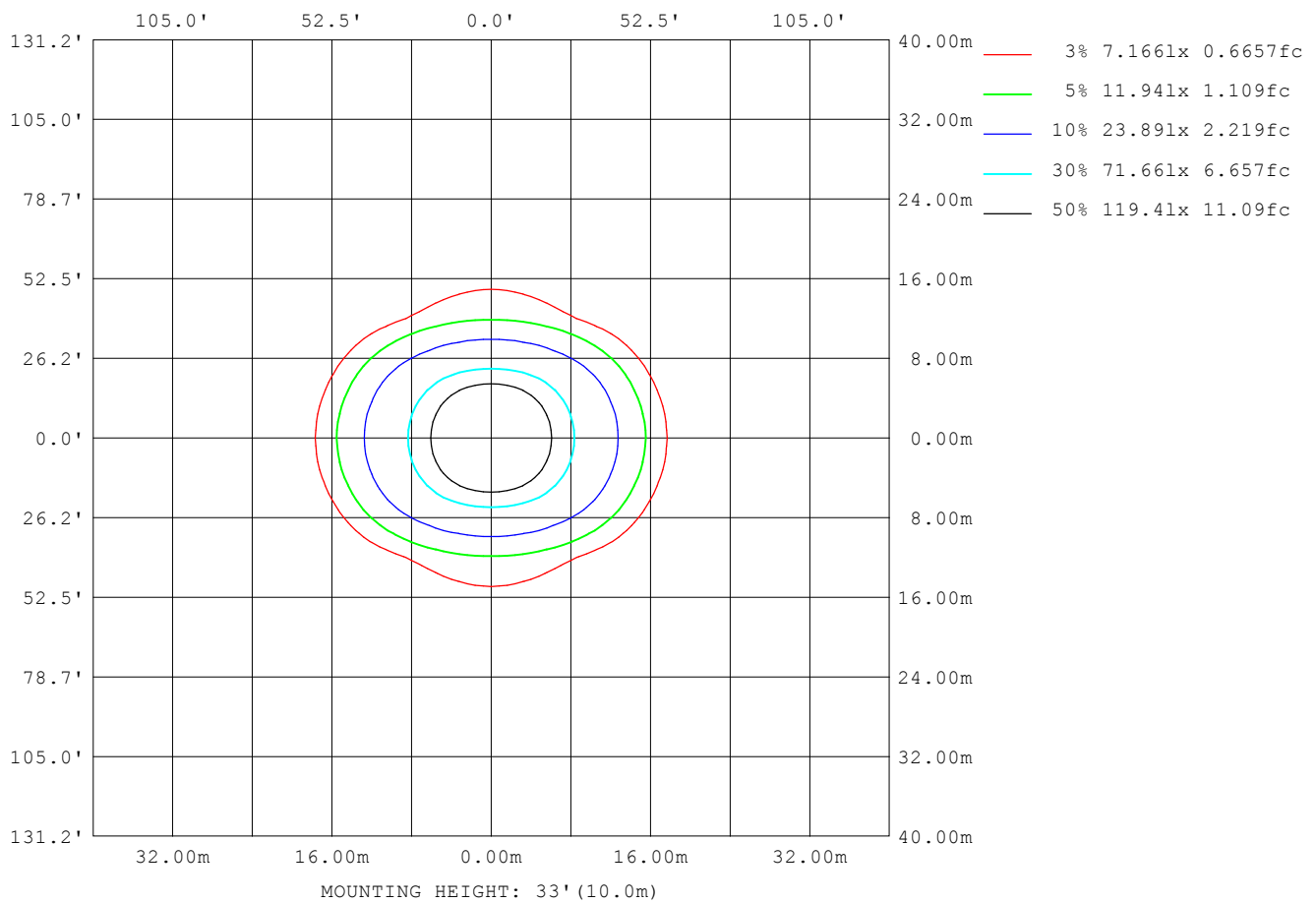
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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



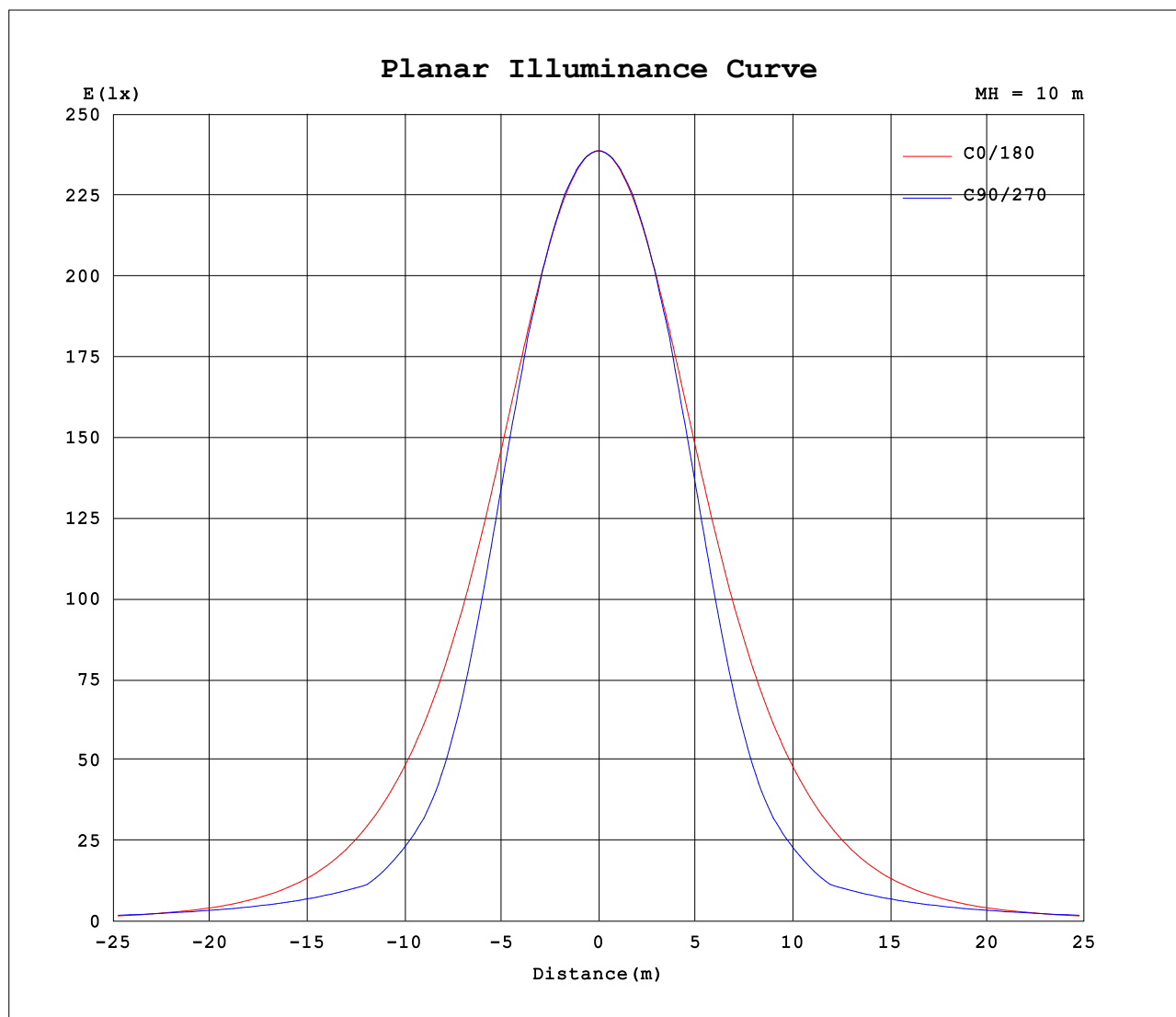
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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: