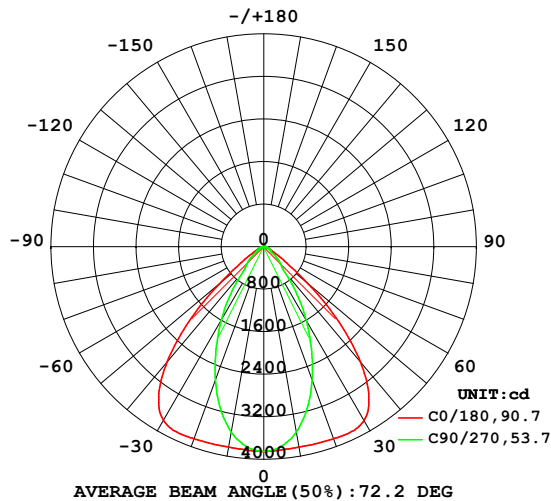


LUMINAIRE PHOTOMETRIC TEST REPORT

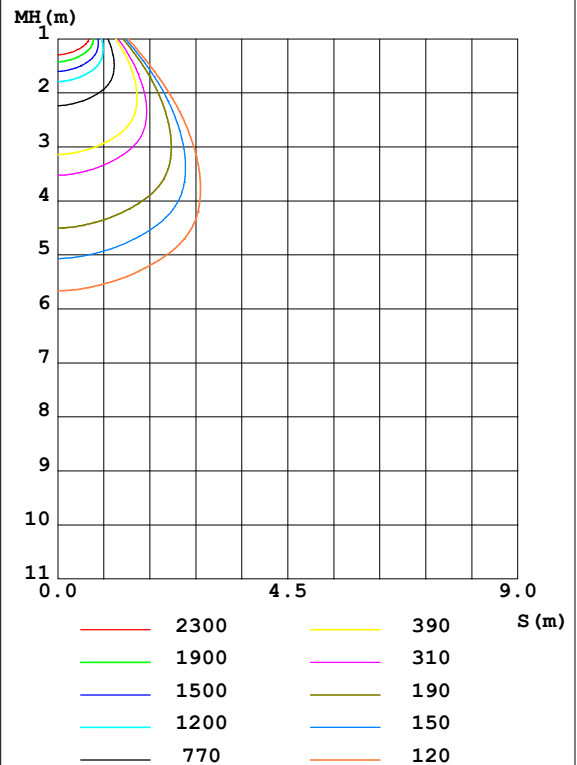
Test:U:230.0V I:0.1464A P:32.68W PF:0.9701 Lamp Flux:5041.67x1 lm					
NAME: LHB01-30H		TYPE:30W		WEIGHT:	
SPEC.:5000K Ra70 5090DEG L06402		DIM.: 0.28*0.137*0.102		SERIAL No.:	
MFR.:		SUR.:0.25*0.1		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 154.28 lm/W			
MODEL	LHB01-30H	I _{max} (cd)	3856	S/MH(C0/180)	1.30
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.82
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	5041.7	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	5041.67	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	0.90

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: 2017-06-01

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	3838	3798	3770	3809	3838	3809	3770	3798	0- 5	91.47	91.47	1.81,1.81
10	3827	3661	3540	3682	3827	3682	3540	3661	5- 10	267.5	359.0	7.12,7.12
15	3833	3453	3153	3473	3833	3473	3153	3453	10- 15	424.4	783.4	15.5,15.5
20	3844	3149	2669	3164	3844	3164	2669	3149	15- 20	550.6	1334	26.5,26.5
25	3855	2733	2122	2741	3855	2741	2122	2733	20- 25	635.9	1970	39.1,39.1
30	3773	2187	1603	2198	3773	2198	1603	2187	25- 30	670.3	2640	52.4,52.4
35	3449	1603	1089	1614	3449	1614	1089	1603	30- 35	645.7	3286	65.2,65.2
40	2830	1151	574.0	1159	2830	1159	574.0	1151	35- 40	556.7	3843	76.2,76.2
45	1993	730.7	439.0	737.3	1993	737.3	439.0	730.7	40- 45	427.6	4270	84.7,84.7
50	1089	355.4	304.0	361.4	1089	361.4	304.0	355.4	45- 50	298.9	4569	90.6,90.6
55	497.8	258.8	179.3	264.2	497.8	264.2	179.3	258.8	50- 55	181.6	4751	94.2,94.2
60	232.8	169.0	136.8	173.3	232.8	173.3	136.8	169.0	55- 60	106.9	4858	96.4,96.4
65	123.3	100.5	104.6	103.3	123.3	103.3	104.6	100.5	60- 65	68.43	4926	97.7,97.7
70	82.15	70.95	72.47	74.38	82.15	74.38	72.47	70.95	65- 70	46.87	4973	98.6,98.6
75	42.14	42.42	54.76	46.39	42.14	46.39	54.76	42.42	70- 75	32.17	5005	99.3,99.3
80	11.10	27.57	37.05	30.11	11.10	30.11	37.05	27.57	75- 80	20.64	5026	99.7,99.7
85	3.068	14.80	19.34	15.58	3.068	15.58	19.34	14.80	80- 85	11.53	5037	99.9,99.9
90	0.7466	2.276	1.622	1.231	0.7466	1.231	1.622	2.276	85- 90	4.293	5042	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): 4270.3 lm

%lum = 84.7%

%lamp = 84.7%

Conical surface Flux(120deg): 4857.7 lm

%lum = 96.4%

%lamp = 96.4%

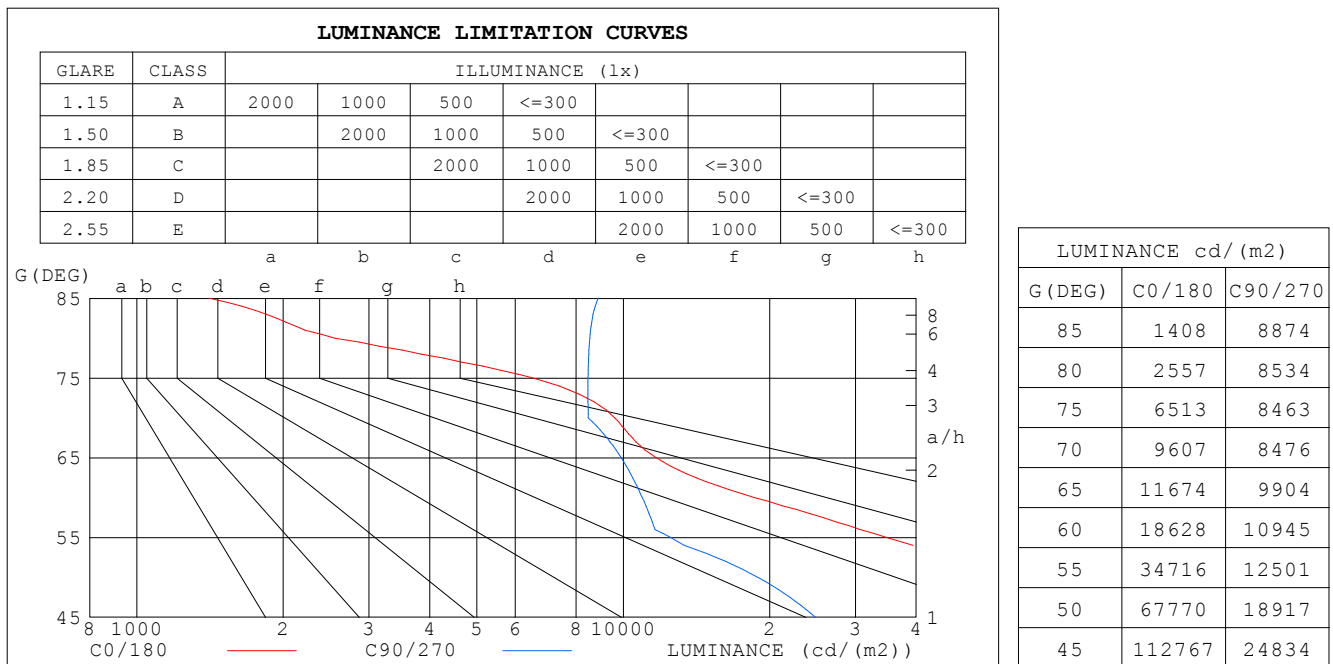
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-01

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: 2017-06-01

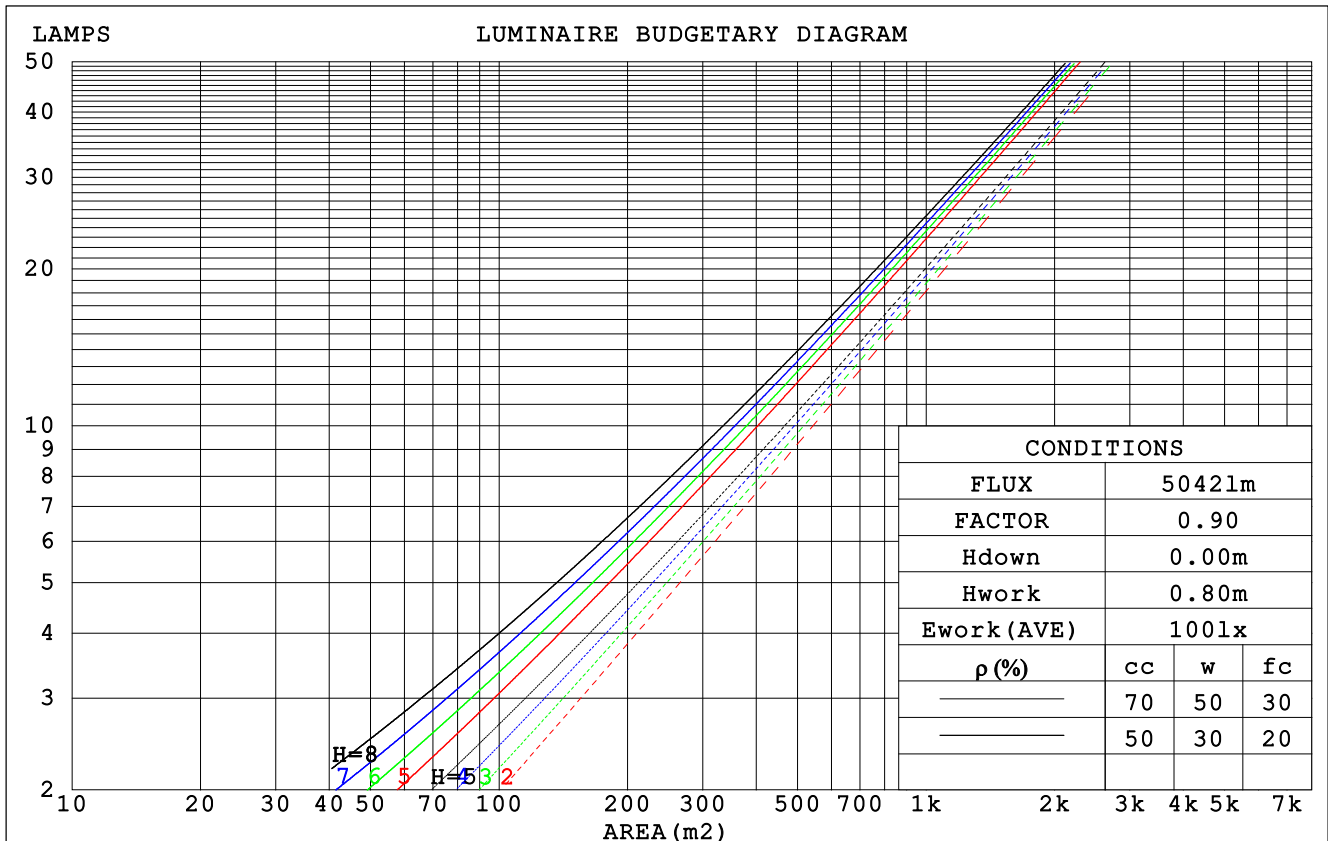
Checker:

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	.00
1.0	1.09	1.06	1.03	1.07	1.04	1.02	1.03	1.01	.99	.99	.97	.96	.95	.94	.93	.91
2.0	.00	.95	.91	.98	.93	.90	.94	.91	.88	.91	.88	.86	.89	.86	.84	.82
3.0	.91	.85	.80	.90	.84	.80	.87	.82	.79	.84	.81	.77	.82	.79	.76	.74
4.0	.84	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.70	.76	.72	.69	.67
5.0	.77	.70	.65	.76	.70	.65	.74	.69	.64	.72	.67	.64	.71	.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	.65	.59	.54	.64	.58	.54	.63	.57	.53	.61	.57	.53	.51
8.0	.61	.54	.50	.61	.54	.50	.60	.54	.49	.58	.53	.49	.57	.53	.49	.47
9.0	.57	.50	.46	.57	.50	.46	.56	.50	.46	.55	.49	.45	.54	.49	.45	.44
10.0	.54	.47	.43	.53	.47	.43	.52	.46	.42	.51	.46	.42	.51	.46	.42	.41



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-01

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	.212	.120	.038	.205	.117	.037	.192	.110	.035	.180	.104	.033	.169	.098	.032	
2.0	.204	.112	.034	.198	.109	.034	.187	.104	.032	.177	.100	.031	.168	.095	.030	
3.0	.195	.104	.031	.189	.101	.031	.180	.098	.030	.171	.094	.029	.163	.090	.028	
4.0	.185	.096	.028	.180	.094	.028	.172	.091	.027	.164	.088	.027	.157	.085	.026	
5.0	.175	.089	.026	.171	.088	.026	.164	.085	.025	.157	.083	.025	.151	.081	.024	
6.0	.166	.083	.024	.163	.082	.024	.156	.080	.023	.150	.078	.023	.145	.076	.023	
7.0	.158	.078	.022	.155	.077	.022	.149	.075	.022	.144	.074	.021	.139	.072	.021	
8.0	.150	.073	.021	.147	.073	.021	.142	.071	.020	.137	.070	.020	.133	.068	.020	
9.0	.143	.069	.019	.141	.068	.019	.136	.067	.019	.132	.066	.019	.127	.065	.019	
10.0	.136	.065	.018	.134	.065	.018	.130	.064	.018	.126	.063	.018	.122	.062	.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	.174	.157	.142	.148	.135	.122	.102	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.161	.132	.109	.138	.114	.094	.094	.079	.065	.054	.046	.038	.017	.015	.013	
3.0	.150	.114	.085	.129	.098	.074	.088	.068	.052	.051	.040	.030	.016	.013	.010	
4.0	.141	.100	.068	.121	.086	.059	.083	.060	.042	.048	.035	.025	.015	.011	.008	
5.0	.133	.088	.055	.114	.076	.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	.040	.024	.012	.013	.008	.004	
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.104	.057	.025	.090	.049	.022	.062	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-01

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	25.4	26.5	25.6	26.7	26.9	19.4	20.5	19.6	20.7	20.9
3H	25.3	26.4	25.6	26.6	26.8	19.7	20.7	19.9	20.9	21.1
4H	25.3	26.3	25.6	26.5	26.7	19.8	20.8	20.1	21.1	21.3
6H	25.2	26.1	25.5	26.4	26.6	20.0	20.9	20.3	21.2	21.4
8H	25.2	26.1	25.5	26.3	26.6	20.1	21.0	20.4	21.2	21.5
12H	25.1	26.0	25.4	26.2	26.5	20.1	21.0	20.5	21.3	21.6
4H 2H	25.2	26.2	25.5	26.4	26.6	19.5	20.5	19.8	20.7	21.0
3H	25.2	26.0	25.5	26.3	26.6	19.9	20.8	20.3	21.1	21.3
4H	25.1	25.9	25.5	26.2	26.5	20.2	20.9	20.5	21.3	21.6
6H	25.1	25.8	25.5	26.1	26.5	20.5	21.1	20.8	21.5	21.8
8H	25.1	25.7	25.5	26.0	26.4	20.6	21.2	21.0	21.6	21.9
12H	25.0	25.6	25.4	26.0	26.3	20.7	21.3	21.1	21.6	22.0
8H 4H	25.0	25.7	25.4	26.0	26.4	20.2	20.8	20.6	21.2	21.5
6H	25.0	25.5	25.4	25.9	26.3	20.6	21.1	21.0	21.5	21.9
8H	25.0	25.4	25.4	25.8	26.3	20.8	21.2	21.2	21.6	22.1
12H	24.9	25.3	25.4	25.8	26.2	20.9	21.3	21.4	21.8	22.2
12H 4H	25.0	25.6	25.4	25.9	26.3	20.2	20.7	20.6	21.1	21.5
6H	25.0	25.4	25.4	25.8	26.3	20.6	21.0	21.0	21.4	21.9
8H	24.9	25.3	25.4	25.8	26.2	20.8	21.2	21.2	21.6	22.1
Variations with the observer position at spacings:										
S = 1.0H	+ 3.0 / - 3.9					+ 1.1 / - 1.7				
1.5H	+ 3.6 / - 4.6					+ 1.3 / - 1.2				
2.0H	+ 6.2 / - 5.3					+ 1.6 / - 1.1				

CIE Pub.117 Corrected 5042 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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) $k(RI) \times RCR = 5$									
$k = 0.60$	76	68	63	76	68	63	75	68	63	58
0.80	85	78	73	85	77	72	83	77	72	67
1.00	92	85	80	91	84	79	89	84	79	74
1.25	97	90	86	96	90	85	94	89	85	80
1.50	101	95	90	99	94	90	97	92	89	83
2.00	105	100	95	103	98	95	100	96	93	87
2.50	107	102	98	105	101	98	102	98	96	89
3.00	109	105	101	107	103	100	104	101	98	91
4.00	112	108	105	110	106	104	106	103	101	93
5.00	113	110	108	111	108	106	107	105	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

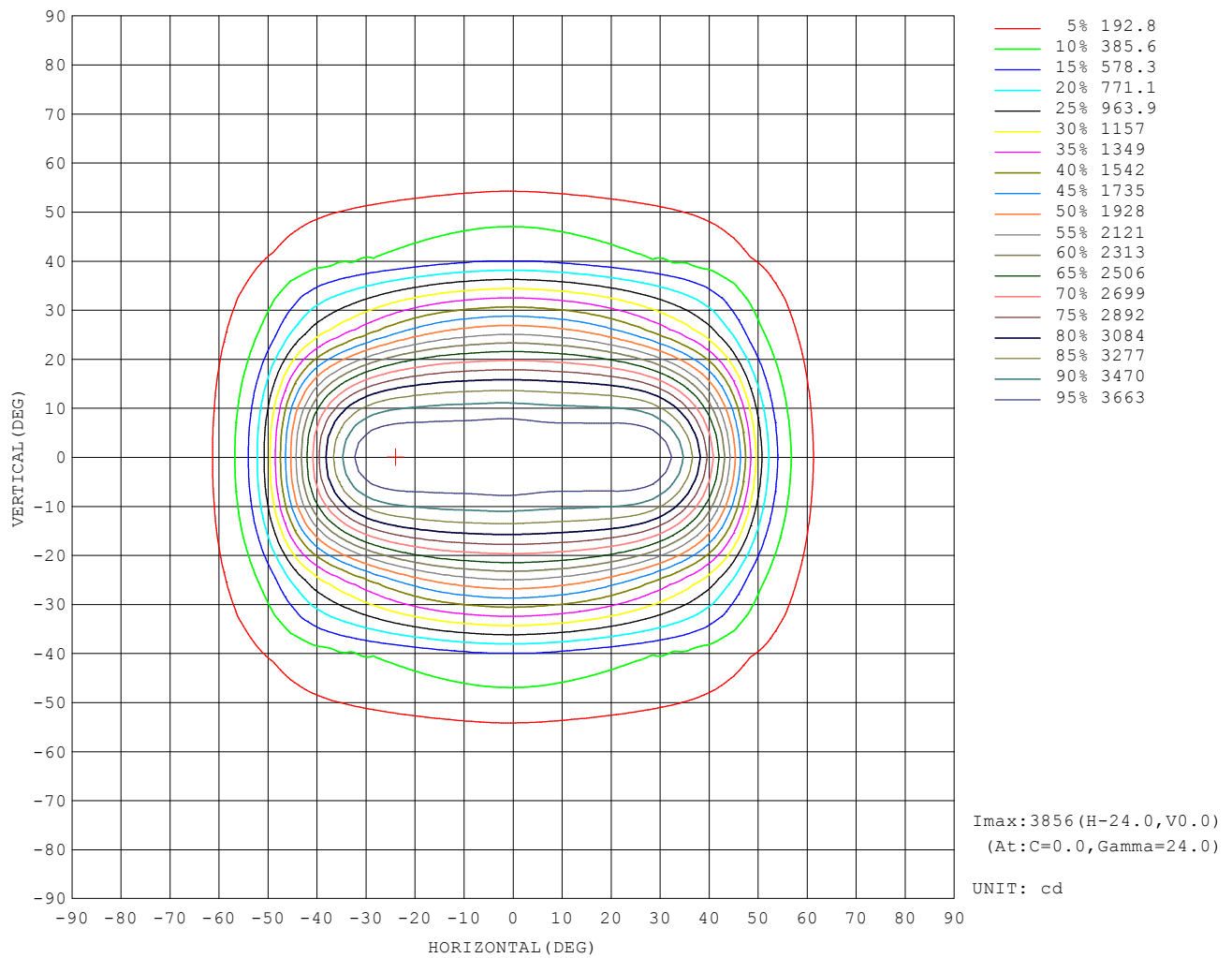
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-01

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



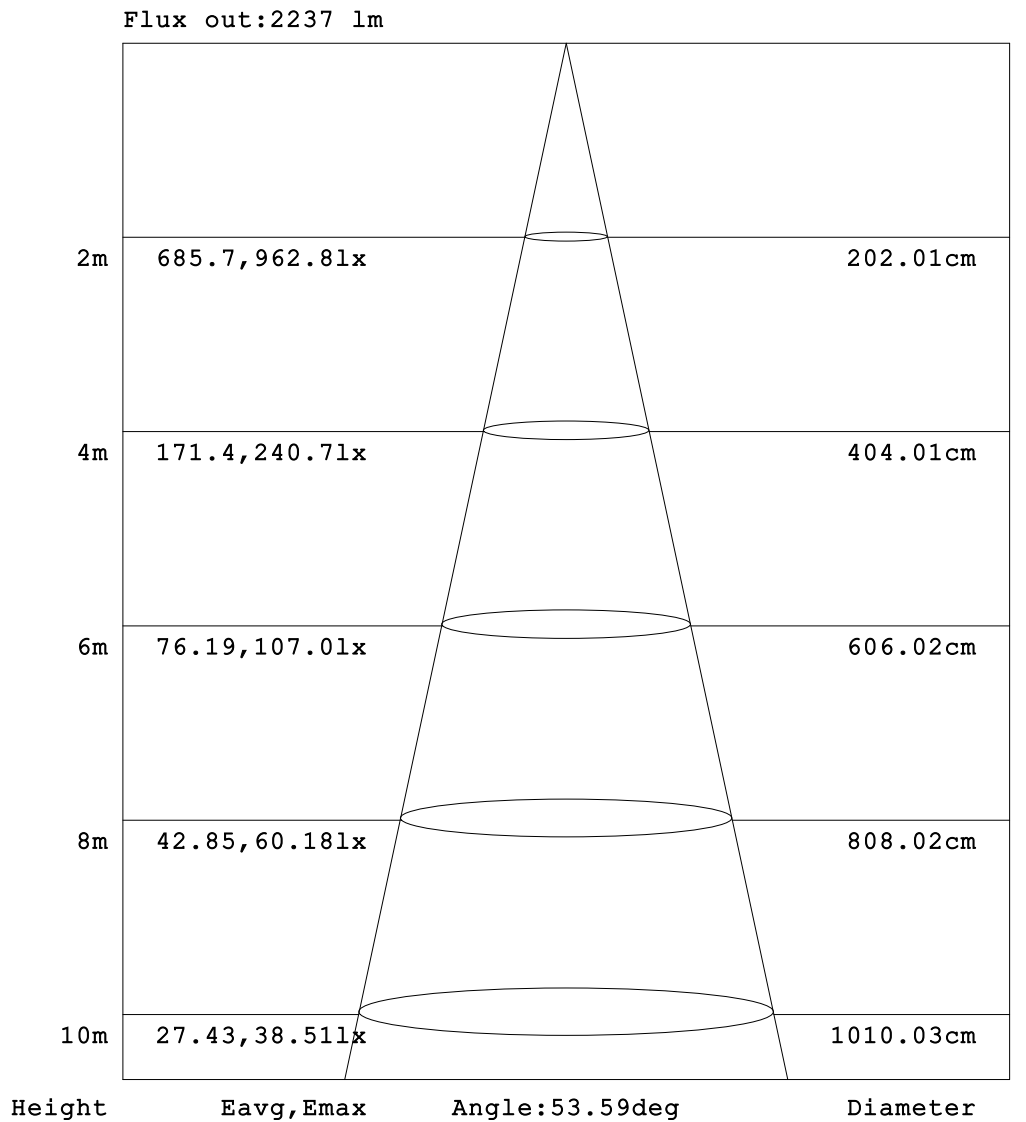
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-01

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.

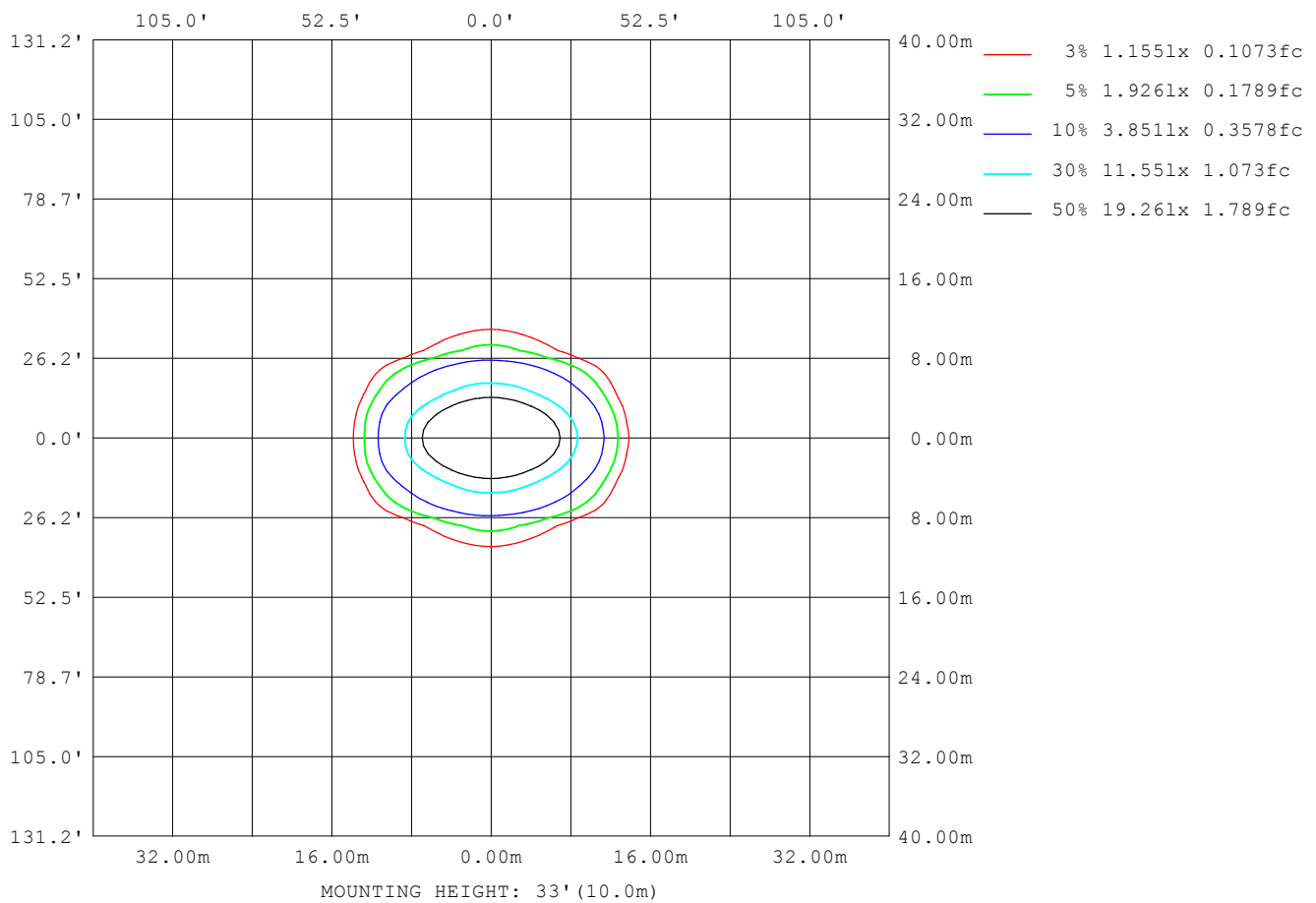
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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



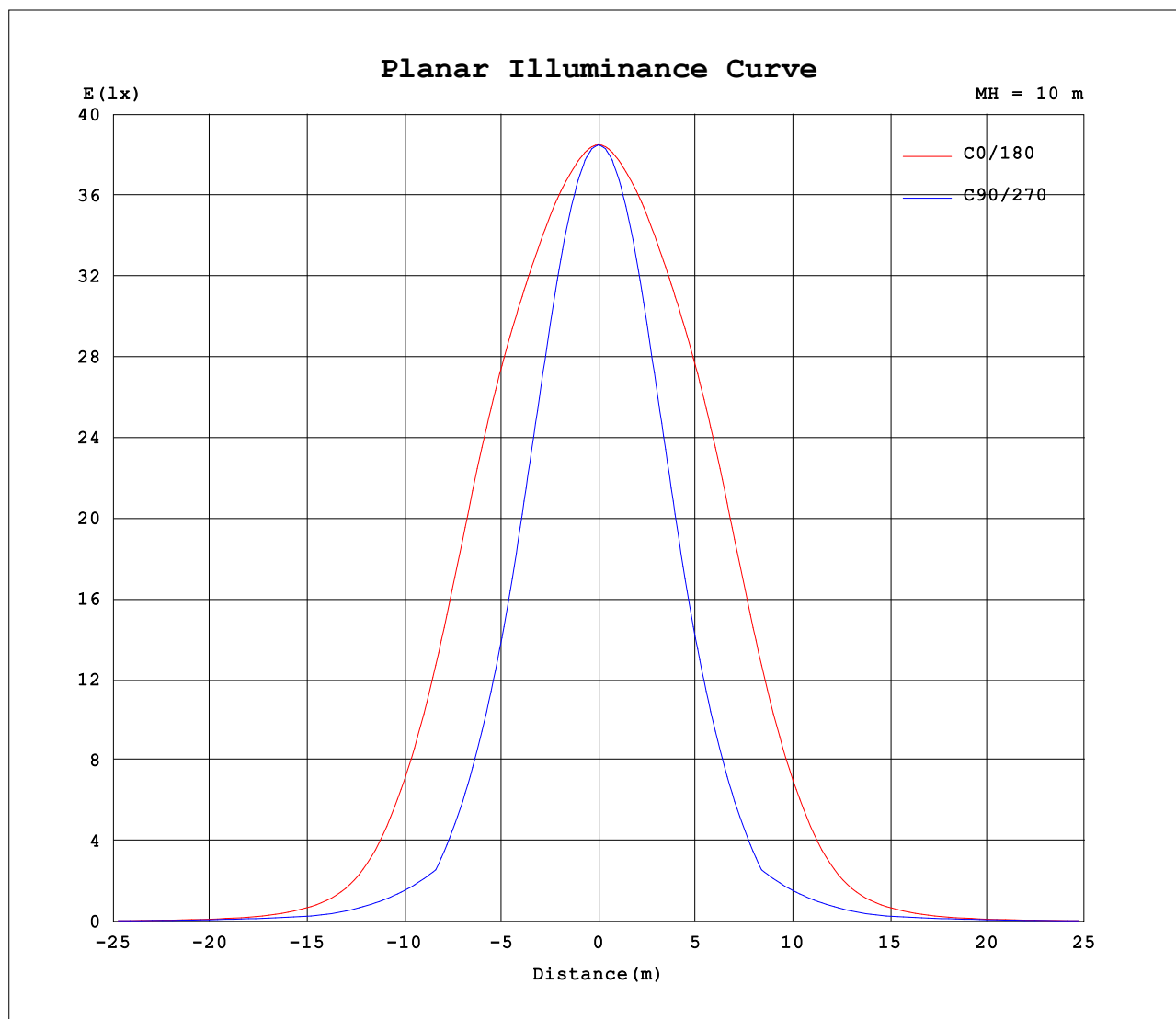
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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: 2017-06-01

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:

UNIT: cd

Assessor: