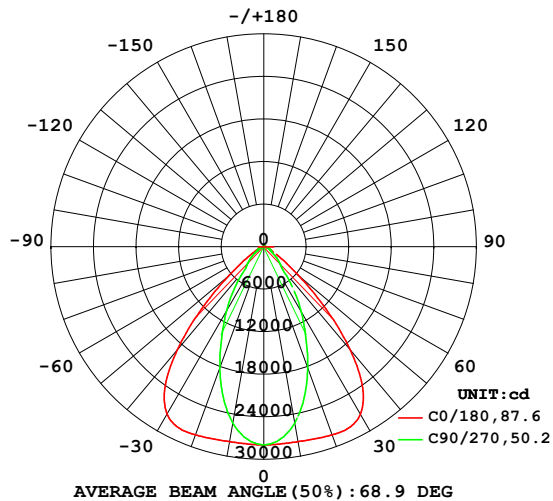


LUMINAIRE PHOTOMETRIC TEST REPORT

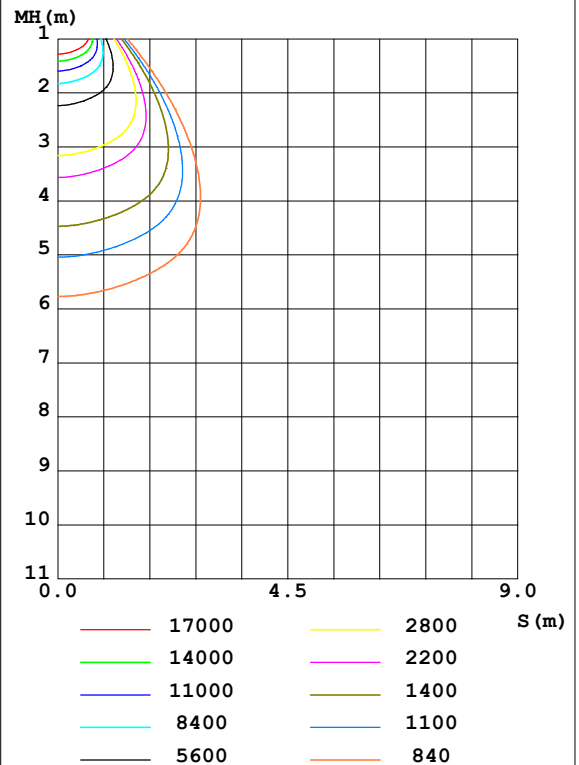
Test:U:229.9V I:1.061A P:238.2W PF:0.9765 Lamp Flux:35326.1x1 lm		
NAME: LHB01-240H	TYPE:240W	WEIGHT:
SPEC.:4000K Ra80 5090DEG L06402	DIM.: 0.948*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.92*0.2	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 148.30 lm/W			
MODEL	LHB01-240H	I _{max} (cd)	28318	S/MH (C0/180)	1.26
NOMINAL POWER(W)	240	LOR(%)	100.0	S/MH (C90/270)	0.78
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	35326	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	35326.1	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	0.85

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:2017-06-02

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	2792	2753	2723	2753	2792	2759	2723	2759	0- 5	663.4	663.4	1.88,1.88
10	2792	2640	2525	2640	2792	2653	2525	2653	5- 10	1934	2598	7.35,7.35
15	2806	2467	2207	2467	2806	2477	2207	2477	10- 15	3048	5646	16,16
20	2825	2218	1817	2218	2825	2218	1817	2218	15- 20	3918	9564	27.1,27.1
25	2825	1883	1404	1883	2825	1875	1404	1875	20- 25	4466	14030	39.7,39.7
30	2727	1469	1063	1469	2727	1460	1063	1460	25- 30	4643	18673	52.9,52.9
35	2431	1074	731.1	1074	2431	1064	731.1	1064	30- 35	4433	23106	65.4,65.4
40	1896	789.6	399.3	789.6	1896	780.9	399.3	780.9	35- 40	3797	26903	76.2,76.2
45	1240	520.6	310.6	520.6	1240	514.0	310.6	514.0	40- 45	2874	29777	84.3,84.3
50	669.1	274.6	221.8	274.6	669.1	270.5	221.8	270.5	45- 50	1988	31765	89.9,89.9
55	342.3	203.8	139.5	203.8	342.3	200.5	139.5	200.5	50- 55	1270	33035	93.5,93.5
60	171.5	137.4	108.9	137.4	171.5	134.7	108.9	134.7	55- 60	803.5	33838	95.8,95.8
65	96.82	85.60	84.75	85.60	96.82	83.50	84.75	83.50	60- 65	538.1	34376	97.3,97.3
70	64.38	61.45	60.59	61.45	64.38	60.31	60.59	60.31	65- 70	378.1	34754	98.4,98.4
75	37.70	38.31	45.80	38.31	37.70	38.03	45.80	38.03	70- 75	262.7	35017	99.1,99.1
80	18.01	24.85	31.01	24.85	18.01	24.80	31.01	24.80	75- 80	172.3	35189	99.6,99.6
85	4.747	13.00	16.22	13.00	4.747	13.10	16.22	13.10	80- 85	99.57	35289	99.9,99.9
90	0.5325	1.399	1.432	1.399	0.5325	1.643	1.432	1.643	85- 90	37.28	35326	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): 29777 lm

%lum = 84.3%

%lamp = 84.3%

Conical surface Flux(120deg): 33838 lm

%lum = 95.8%

%lamp = 95.8%

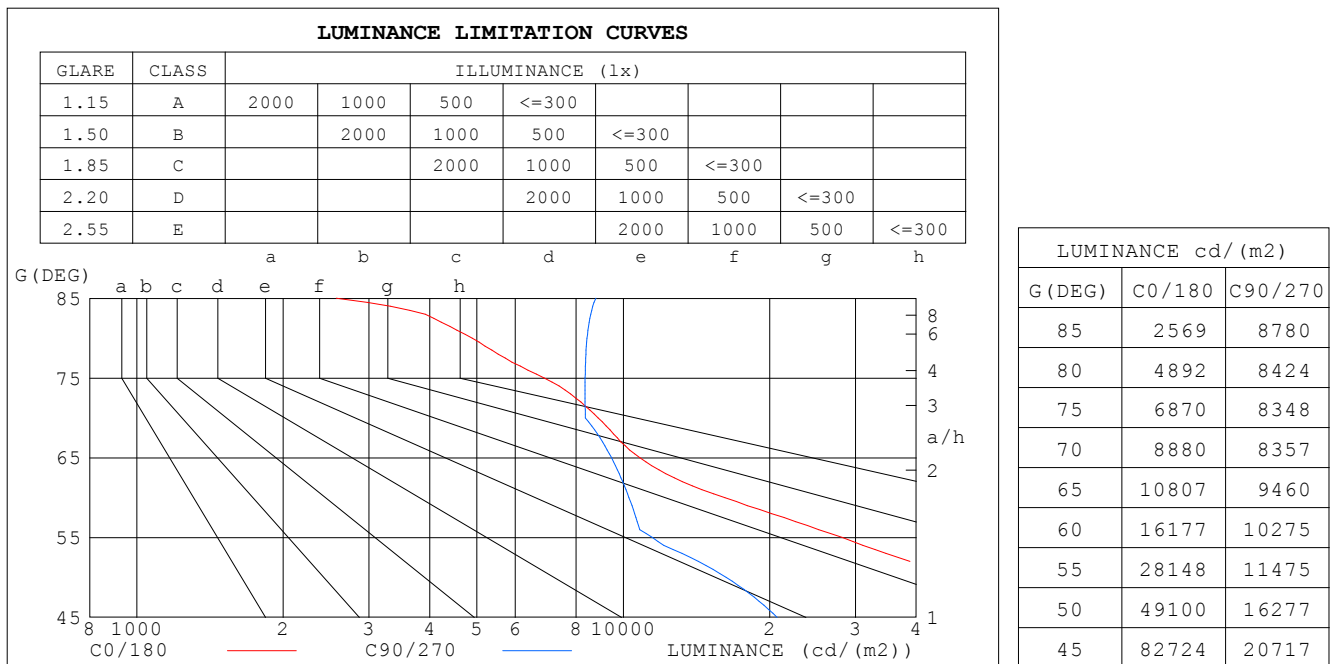
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-02

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: 2017-06-02

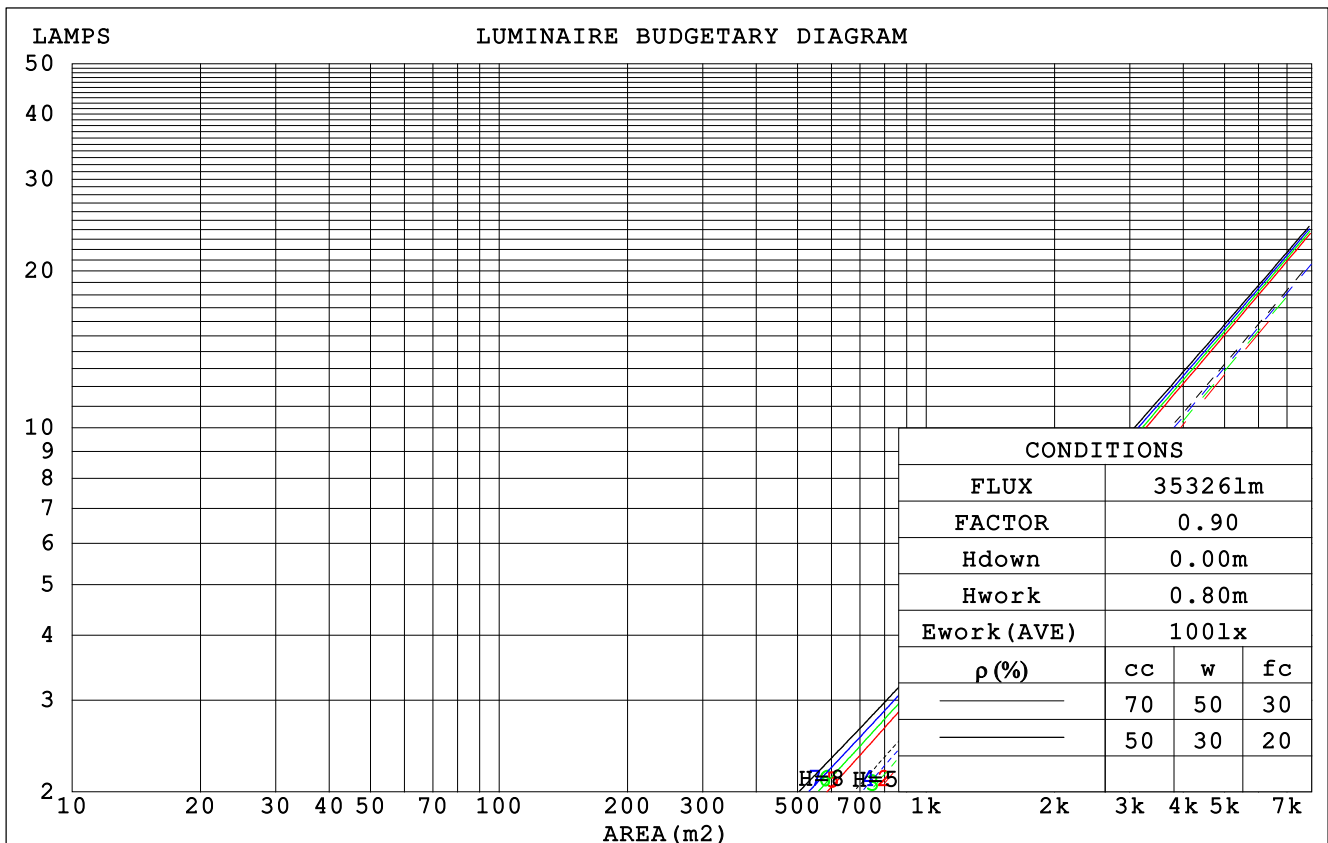
Checker:

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

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	1.06	1.03	1.07	1.04	1.02	1.03	1.00	.98	.99	.97	.96	.95	.94	.93	.91
2.0	.99	.95	.91	.98	.93	.90	.94	.91	.88	.91	.88	.86	.88	.86	.84	.82
3.0	.91	.85	.80	.90	.84	.80	.87	.82	.78	.84	.80	.77	.82	.79	.76	.74
4.0	.84	.77	.72	.82	.76	.72	.80	.75	.71	.78	.73	.70	.76	.72	.69	.67
5.0	.77	.70	.65	.76	.70	.65	.74	.68	.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	.55	.50	.61	.54	.50	.60	.54	.49	.59	.53	.49	.58	.53	.49	.47
9.0	.57	.51	.46	.57	.50	.46	.56	.50	.46	.55	.49	.46	.54	.49	.45	.44
10.0	.54	.47	.43	.53	.47	.43	.52	.47	.43	.52	.46	.42	.51	.46	.42	.41



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-02

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	.213	.121	.038	.206	.118	.037	.194	.111	.035	.182	.105	.034	.171	.099	.032		
2.0	.205	.113	.035	.200	.110	.034	.189	.105	.033	.179	.100	.031	.169	.096	.030		
3.0	.195	.104	.031	.190	.102	.031	.181	.098	.030	.172	.094	.029	.164	.091	.028		
4.0	.185	.096	.028	.181	.095	.028	.172	.091	.027	.165	.088	.027	.158	.086	.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	.138	.072	.021		
8.0	.150	.073	.021	.147	.072	.020	.142	.071	.020	.137	.070	.020	.133	.068	.020		
9.0	.143	.069	.019	.140	.068	.019	.136	.067	.019	.131	.066	.019	.127	.065	.019		
10.0	.136	.065	.018	.134	.065	.018	.130	.063	.018	.126	.062	.018	.122	.061	.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	.149	.135	.122	.102	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.161	.132	.108	.138	.114	.094	.094	.079	.065	.054	.046	.038	.017	.015	.012	
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:2017-06-02

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	24.5	25.7	24.8	25.8	26.0	19.0	20.1	19.2	20.3	20.5
3H	24.5	25.5	24.8	25.7	26.0	19.4	20.5	19.7	20.7	20.9
4H	24.5	25.4	24.7	25.7	25.9	19.7	20.7	20.0	20.9	21.1
6H	24.4	25.3	24.7	25.6	25.8	19.9	20.9	20.2	21.1	21.4
8H	24.4	25.3	24.7	25.5	25.8	20.0	20.9	20.4	21.2	21.5
12H	24.3	25.2	24.6	25.4	25.7	20.1	21.0	20.4	21.2	21.5
4H 2H	24.3	25.3	24.6	25.6	25.8	19.2	20.2	19.5	20.4	20.7
3H	24.4	25.2	24.7	25.5	25.8	19.8	20.7	20.1	21.0	21.2
4H	24.4	25.1	24.7	25.4	25.8	20.2	20.9	20.5	21.2	21.6
6H	24.3	25.0	24.7	25.4	25.7	20.5	21.2	20.9	21.6	21.9
8H	24.3	24.9	24.7	25.3	25.7	20.7	21.3	21.1	21.7	22.1
12H	24.3	24.9	24.7	25.2	25.6	20.8	21.4	21.3	21.8	22.2
8H 4H	24.3	24.9	24.7	25.3	25.6	20.2	20.9	20.6	21.2	21.6
6H	24.3	24.8	24.7	25.2	25.6	20.7	21.2	21.1	21.6	22.0
8H	24.3	24.7	24.7	25.1	25.6	21.0	21.4	21.4	21.8	22.3
12H	24.2	24.6	24.7	25.1	25.6	21.2	21.6	21.7	22.0	22.5
12H 4H	24.2	24.8	24.7	25.2	25.6	20.2	20.8	20.6	21.2	21.5
6H	24.3	24.7	24.7	25.1	25.6	20.7	21.2	21.2	21.6	22.0
8H	24.3	24.6	24.7	25.1	25.6	21.0	21.4	21.5	21.8	22.3
Variations with the observer position at spacings:										
S = 1.0H	+ 2.8 / - 3.3					+ 0.9 / - 1.2				
1.5H	+ 3.8 / - 3.8					+ 0.9 / - 1.0				
2.0H	+ 5.6 / - 4.1					+ 1.1 / - 0.9				

CIE Pub.117 Corrected 35326 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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	76	72	67
1.00	92	84	80	91	84	79	89	84	79	74
1.25	97	90	86	96	90	85	94	88	84	79
1.50	101	94	90	99	94	89	97	92	88	83
2.00	105	99	95	103	98	94	100	96	93	87
2.50	107	102	98	105	101	97	102	98	95	89
3.00	109	105	101	107	103	100	104	101	98	91
4.00	112	108	105	109	106	104	106	103	101	93
5.00	113	110	107	111	108	106	107	105	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

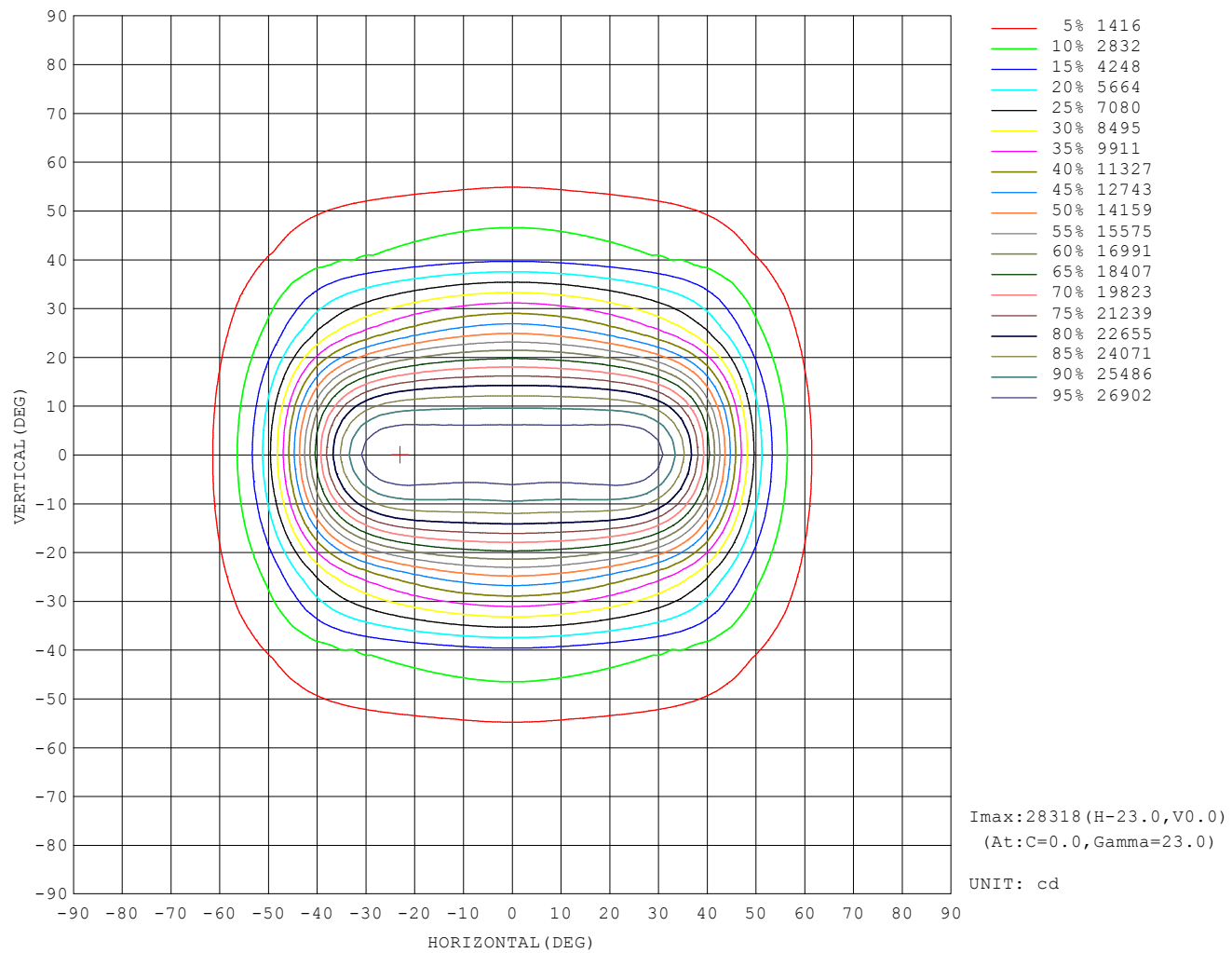
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-02

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



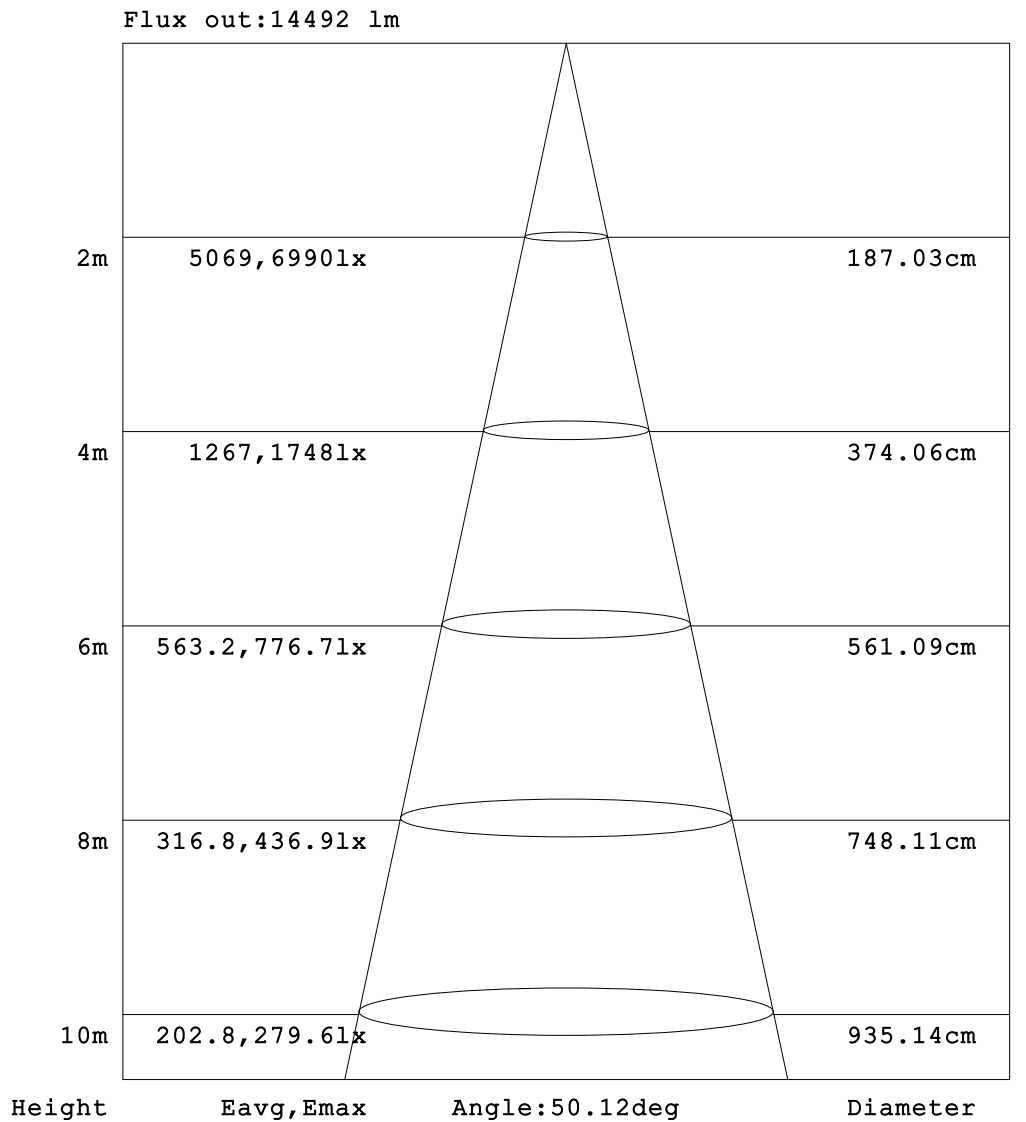
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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.

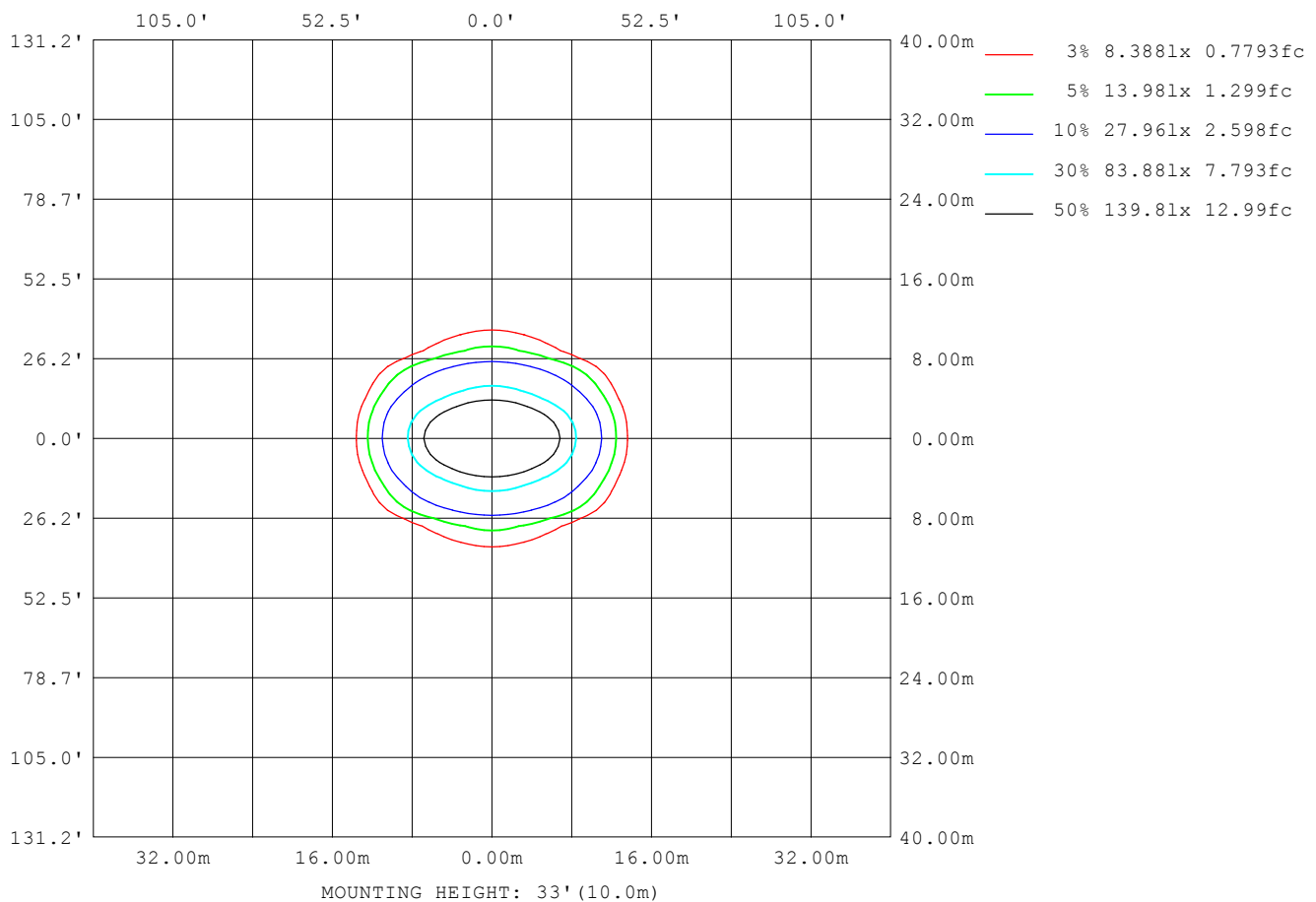
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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



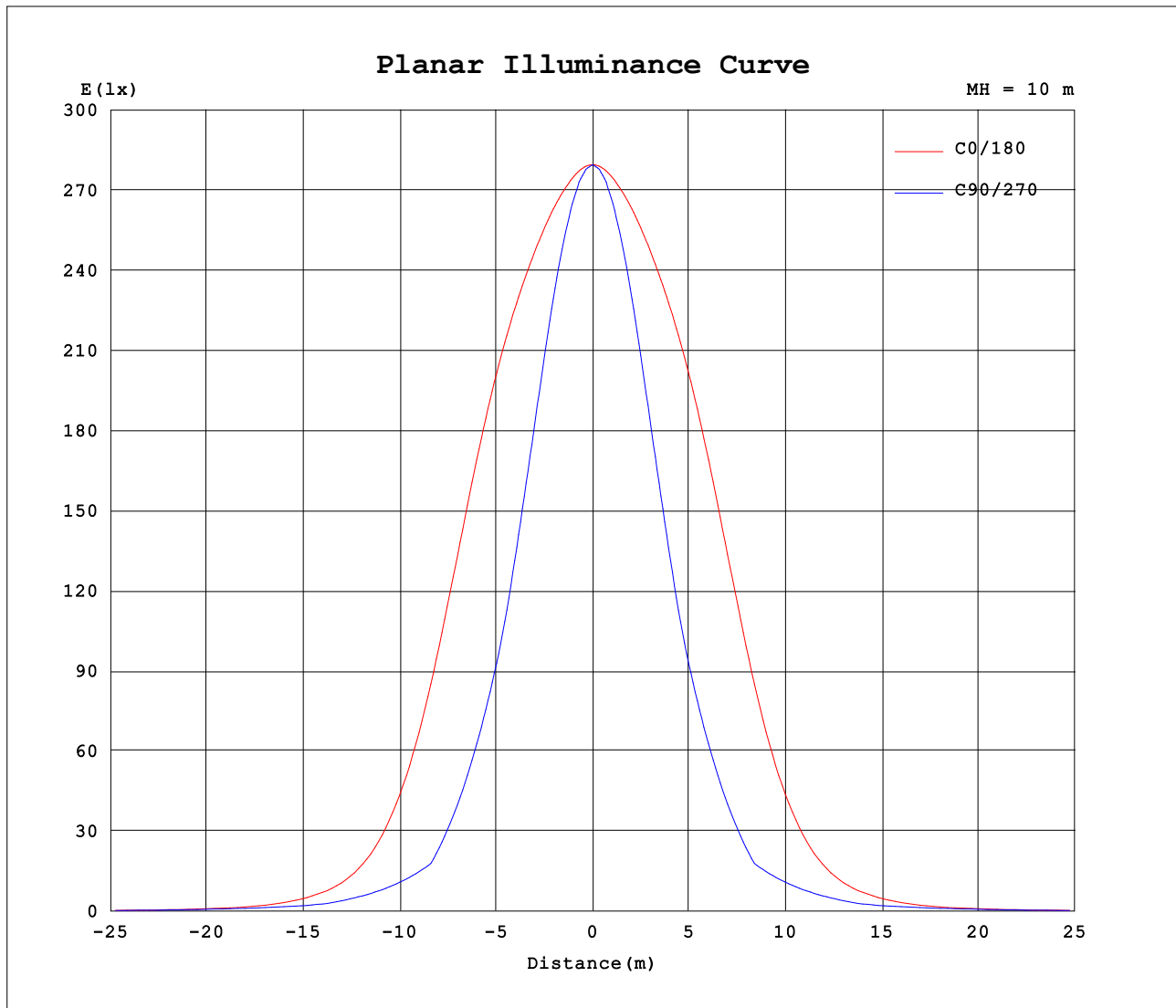
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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: 2017-06-02

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: