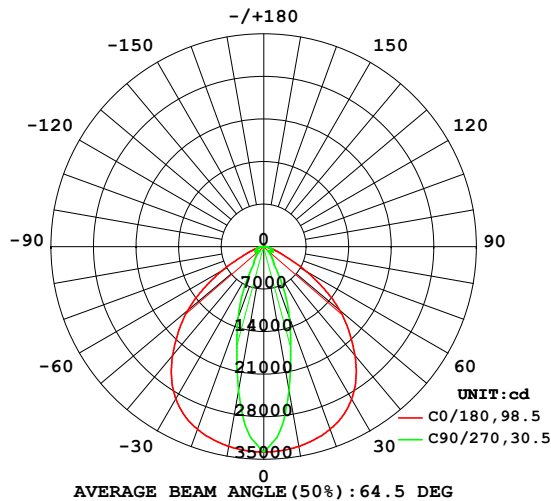


LUMINAIRE PHOTOMETRIC TEST REPORT

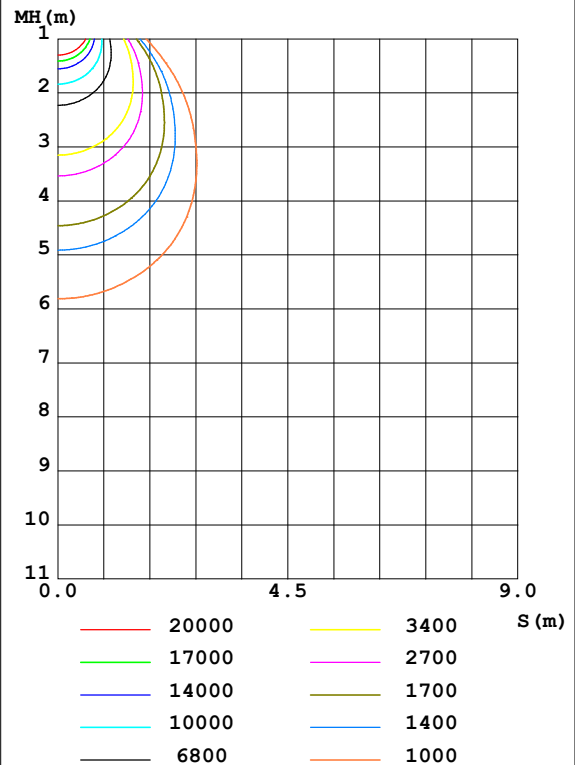
Test:U:230.0V I:1.045A P:235.1W PF:0.9781 Lamp Flux:32185.4x1 lm		
NAME: LHB03-240	TYPE:240W	WEIGHT:
SPEC.:5000K Ra70 30*100DEG L00301	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.274	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 136.91 lm/W			
MODEL	LHB03-240	I _{max} (cd)	33783	S/MH (C0/180)	1.26
NOMINAL POWER(W)	240	LOR(%)	100.0	S/MH (C90/270)	0.50
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	32185	η UP,DN (C0-180)	0.0,50.0
NOMINAL FLUX(lm)	32185.4	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.60

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:2017-03-03

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
5	3368	3166	3050	3166	3368	3168	3050	3168	0- 5	777.4	777.4	2.42, 2.42
10	3335	2766	2401	2766	3335	2772	2401	2772	5- 10	2135	2912	9.05, 9.05
15	3277	2229	1721	2229	3277	2241	1721	2241	10- 15	3038	5950	18.5, 18.5
20	3196	1693	1245	1693	3196	1710	1245	1710	15- 20	3500	9450	29.4, 29.4
25	3076	1294	795.2	1294	3076	1309	795.2	1309	20- 25	3642	13093	40.7, 40.7
30	2894	935.6	345.2	935.6	2894	943.5	345.2	943.5	25- 30	3458	16551	51.4, 51.4
35	2646	581.9	261.9	581.9	2646	579.4	261.9	579.4	30- 35	3070	19621	61, 61
40	2334	272.6	178.5	272.6	2334	262.2	178.5	262.2	35- 40	2713	22334	69.4, 69.4
45	1993	204.5	105.9	204.5	1993	196.7	105.9	196.7	40- 45	2305	24639	76.6, 76.6
50	1633	136.9	119.6	136.9	1633	133.8	119.6	133.8	45- 50	1894	26533	82.4, 82.4
55	1216	75.57	144.1	75.57	1216	76.17	144.1	76.17	50- 55	1539	28072	87.2, 87.2
60	790.6	68.16	168.6	68.16	790.6	69.09	168.6	69.09	55- 60	1229	29301	91, 91
65	424.5	62.47	150.3	62.47	424.5	63.42	150.3	63.42	60- 65	983.3	30284	94.1, 94.1
70	240.9	53.36	132.1	53.36	240.9	54.41	132.1	54.41	65- 70	732.1	31016	96.4, 96.4
75	118.9	43.04	111.9	43.04	118.9	43.78	111.9	43.78	70- 75	539.8	31556	98, 98
80	45.95	32.20	76.62	32.20	45.95	32.75	76.62	32.75	75- 80	363.8	31920	99.2, 99.2
85	10.84	16.72	39.40	16.72	10.84	17.11	39.40	17.11	80- 85	197.8	32118	99.8, 99.8
90	1.048	2.186	2.185	2.186	1.048	2.436	2.185	2.436	85- 90	67.55	32185	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): 24639 lm

%lum = 76.6%

%lamp = 76.6%

Conical surface Flux(120deg): 29301 lm

%lum = 91.0%

%lamp = 91.0%

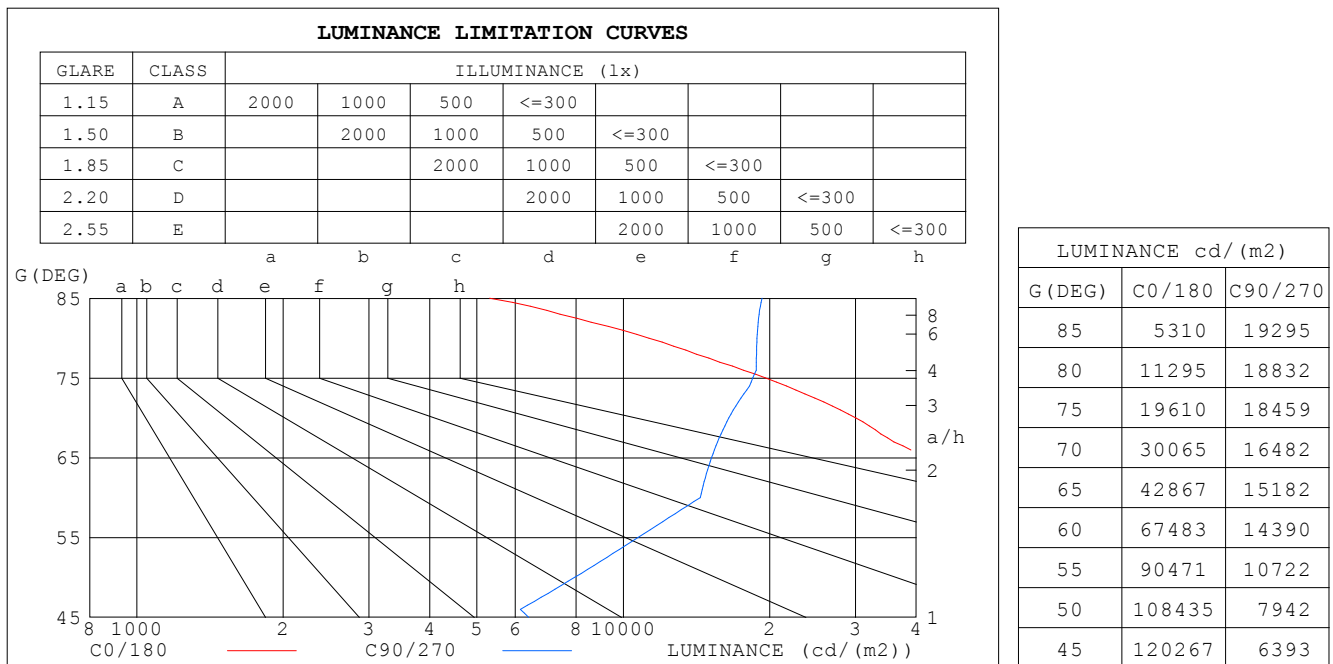
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-03

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: 2017-03-03

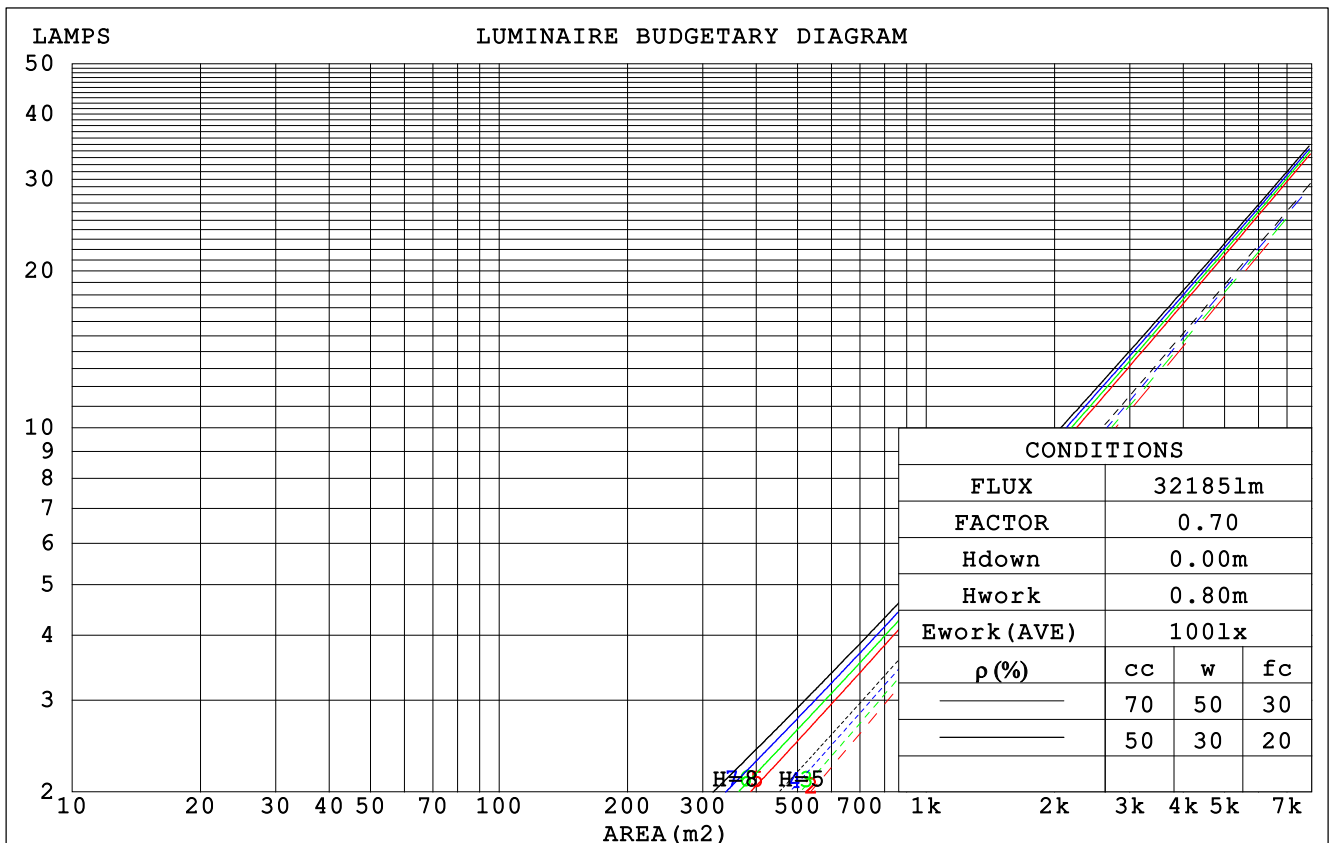
Checker:

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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.98	.92	.88	.96	.91	.87	.93	.89	.85	.89	.86	.83	.87	.84	.81	.80
3.0	.89	.83	.78	.87	.82	.77	.85	.80	.76	.82	.78	.74	.80	.76	.73	.71
4.0	.81	.75	.69	.80	.74	.69	.78	.72	.68	.76	.71	.67	.74	.70	.66	.64
5.0	.75	.68	.62	.74	.67	.62	.72	.66	.62	.70	.65	.61	.69	.64	.60	.59
6.0	.69	.62	.57	.68	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.55	.54
7.0	.64	.57	.52	.64	.57	.52	.62	.56	.52	.61	.55	.51	.60	.55	.51	.49
8.0	.60	.53	.48	.59	.53	.48	.58	.52	.48	.57	.52	.48	.56	.51	.47	.46
9.0	.56	.49	.45	.56	.49	.45	.55	.49	.44	.54	.48	.44	.53	.48	.44	.43
10.0	.53	.46	.42	.52	.46	.42	.52	.46	.42	.51	.45	.41	.50	.45	.41	.40



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

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	.233	.133	.042	.227	.129	.041	.214	.123	.039	.202	.116	.037	.191	.111	.036	
2.0	.222	.122	.037	.216	.119	.037	.205	.114	.035	.195	.109	.034	.185	.105	.033	
3.0	.208	.111	.033	.203	.109	.033	.194	.105	.032	.185	.101	.031	.177	.098	.030	
4.0	.195	.102	.030	.191	.100	.030	.183	.097	.029	.175	.094	.028	.167	.091	.028	
5.0	.183	.093	.027	.179	.092	.027	.172	.090	.026	.165	.087	.026	.159	.085	.025	
6.0	.172	.086	.025	.169	.085	.025	.162	.083	.024	.156	.081	.024	.150	.079	.024	
7.0	.162	.080	.023	.159	.079	.023	.153	.078	.022	.148	.076	.022	.143	.074	.022	
8.0	.153	.075	.021	.151	.074	.021	.145	.073	.021	.140	.071	.021	.136	.070	.020	
9.0	.145	.070	.020	.143	.070	.020	.138	.068	.019	.134	.067	.019	.129	.066	.019	
10.0	.138	.066	.018	.135	.065	.018	.131	.064	.018	.127	.063	.018	.124	.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	.175	.157	.140	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.106	.140	.114	.092	.096	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.153	.114	.083	.131	.098	.072	.090	.068	.050	.052	.040	.030	.017	.013	.010	
4.0	.144	.100	.066	.123	.086	.058	.085	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.136	.089	.054	.116	.077	.047	.080	.054	.033	.046	.031	.020	.015	.010	.007	
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.122	.073	.038	.105	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005	
8.0	.116	.067	.033	.099	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.061	.029	.095	.053	.025	.066	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.105	.057	.025	.090	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003	

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

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	27.6	28.8	27.9	29.0	29.2	16.4	17.6	16.6	17.7	17.9
3H	28.3	29.4	28.6	29.7	29.9	19.4	20.5	19.7	20.7	20.9
4H	28.5	29.6	28.8	29.8	30.0	20.9	21.9	21.2	22.2	22.4
6H	28.5	29.5	28.8	29.8	30.0	22.0	23.0	22.4	23.3	23.5
8H	28.5	29.4	28.8	29.7	30.0	22.5	23.4	22.8	23.7	23.9
12H	28.5	29.4	28.8	29.6	29.9	22.8	23.7	23.1	24.0	24.2
4H 2H	27.4	28.4	27.6	28.6	28.9	16.8	17.8	17.0	18.0	18.3
3H	28.1	29.0	28.4	29.3	29.6	19.9	20.9	20.3	21.1	21.4
4H	28.3	29.1	28.7	29.4	29.8	21.7	22.5	22.0	22.8	23.1
6H	28.4	29.1	28.8	29.5	29.8	23.1	23.8	23.4	24.1	24.5
8H	28.4	29.1	28.8	29.4	29.8	23.6	24.3	24.0	24.6	25.0
12H	28.3	29.0	28.8	29.3	29.7	24.0	24.6	24.4	25.0	25.4
8H 4H	28.2	28.9	28.6	29.2	29.6	21.8	22.4	22.2	22.8	23.2
6H	28.3	28.9	28.7	29.3	29.7	23.4	23.9	23.8	24.3	24.7
8H	28.3	28.8	28.8	29.2	29.7	24.0	24.5	24.5	25.0	25.4
12H	28.3	28.7	28.8	29.2	29.6	24.6	25.0	25.1	25.5	25.9
12H 4H	28.2	28.8	28.6	29.2	29.6	21.7	22.4	22.2	22.7	23.1
6H	28.3	28.8	28.7	29.2	29.6	23.4	23.9	23.8	24.3	24.7
8H	28.3	28.7	28.7	29.1	29.6	24.1	24.5	24.6	25.0	25.4
Variations with the observer position at spacings:										
S = 1.0H	+ 1.4 / - 1.4					+ 0.2 / - 0.2				
1.5H	+ 2.7 / - 3.5					+ 0.2 / - 0.2				
2.0H	+ 4.2 / - 5.8					+ 0.4 / - 0.4				

CIE Pub.117 Corrected 32185 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.1)

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

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) $k(RI) \times RCR = 5$									
$k = 0.60$	72	63	58	72	63	58	71	63	58	53
0.80	81	73	67	81	72	67	79	72	67	61
1.00	88	80	75	87	79	74	85	80	74	68
1.25	94	86	81	93	85	81	90	84	80	74
1.50	98	90	85	96	90	85	94	88	84	78
2.00	102	96	92	101	95	91	98	93	89	83
2.50	105	99	95	103	98	94	100	96	92	85
3.00	107	102	98	105	101	97	102	98	95	88
4.00	110	106	103	108	104	101	104	101	99	91
5.00	112	109	106	110	107	104	106	103	101	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

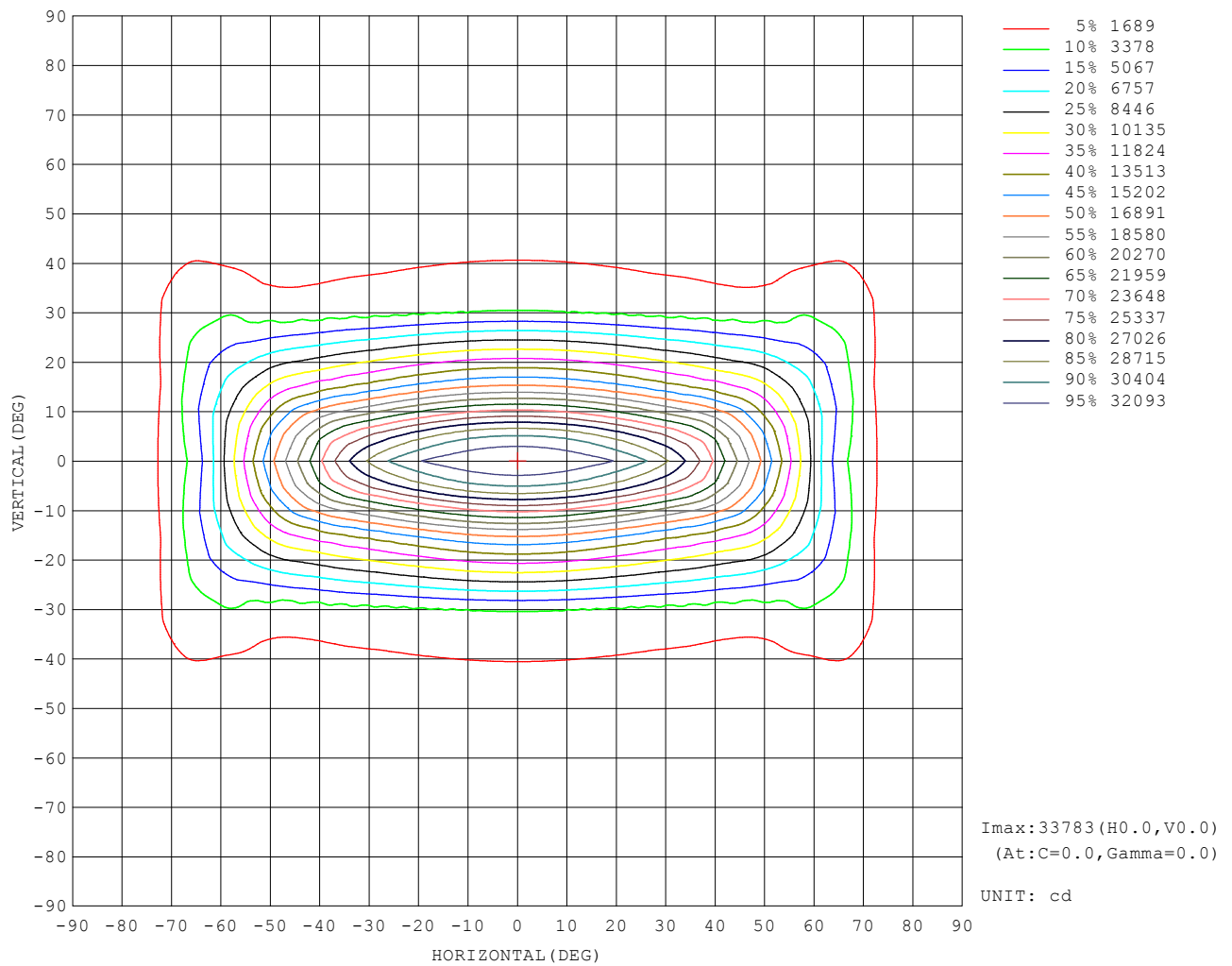
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-03

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



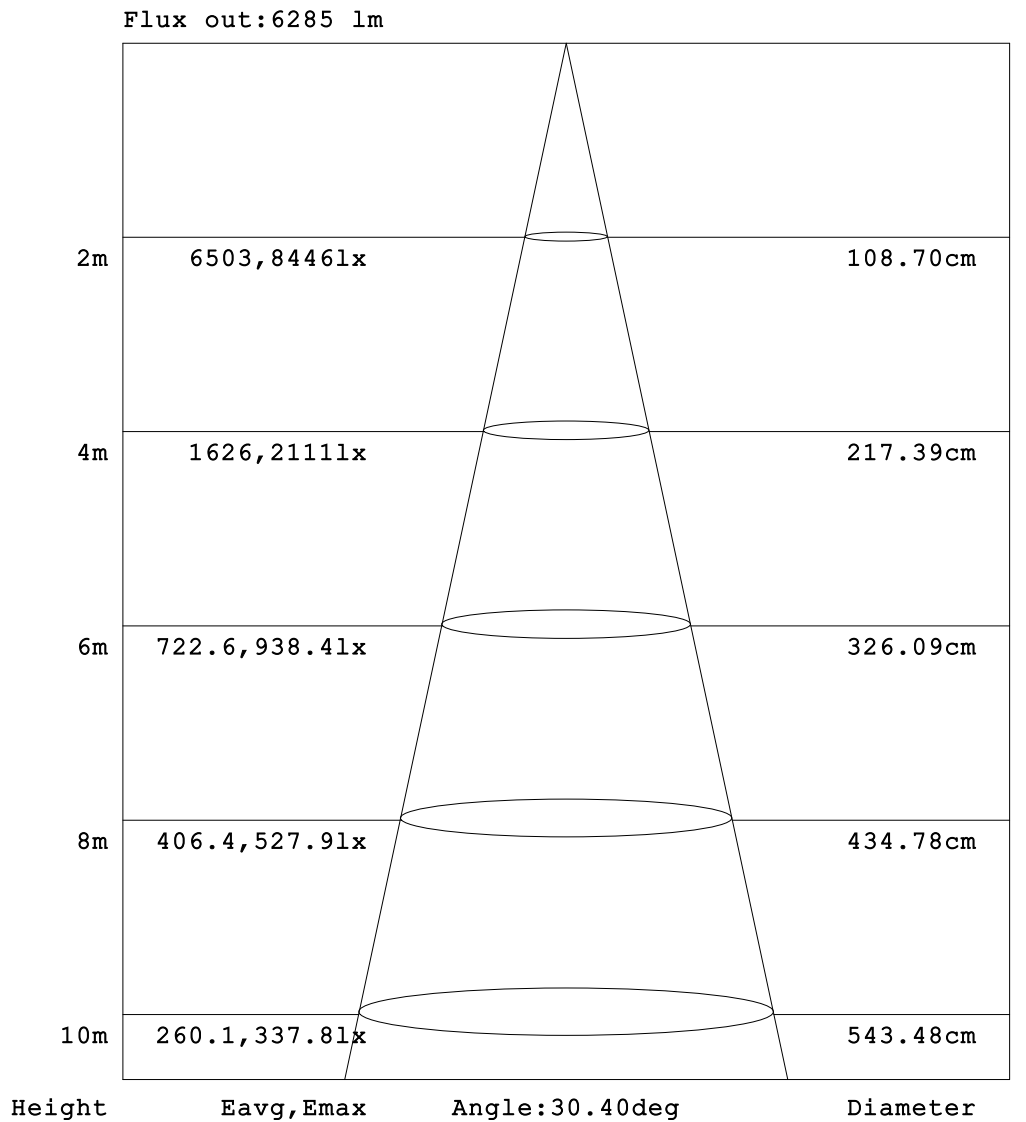
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-03

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.

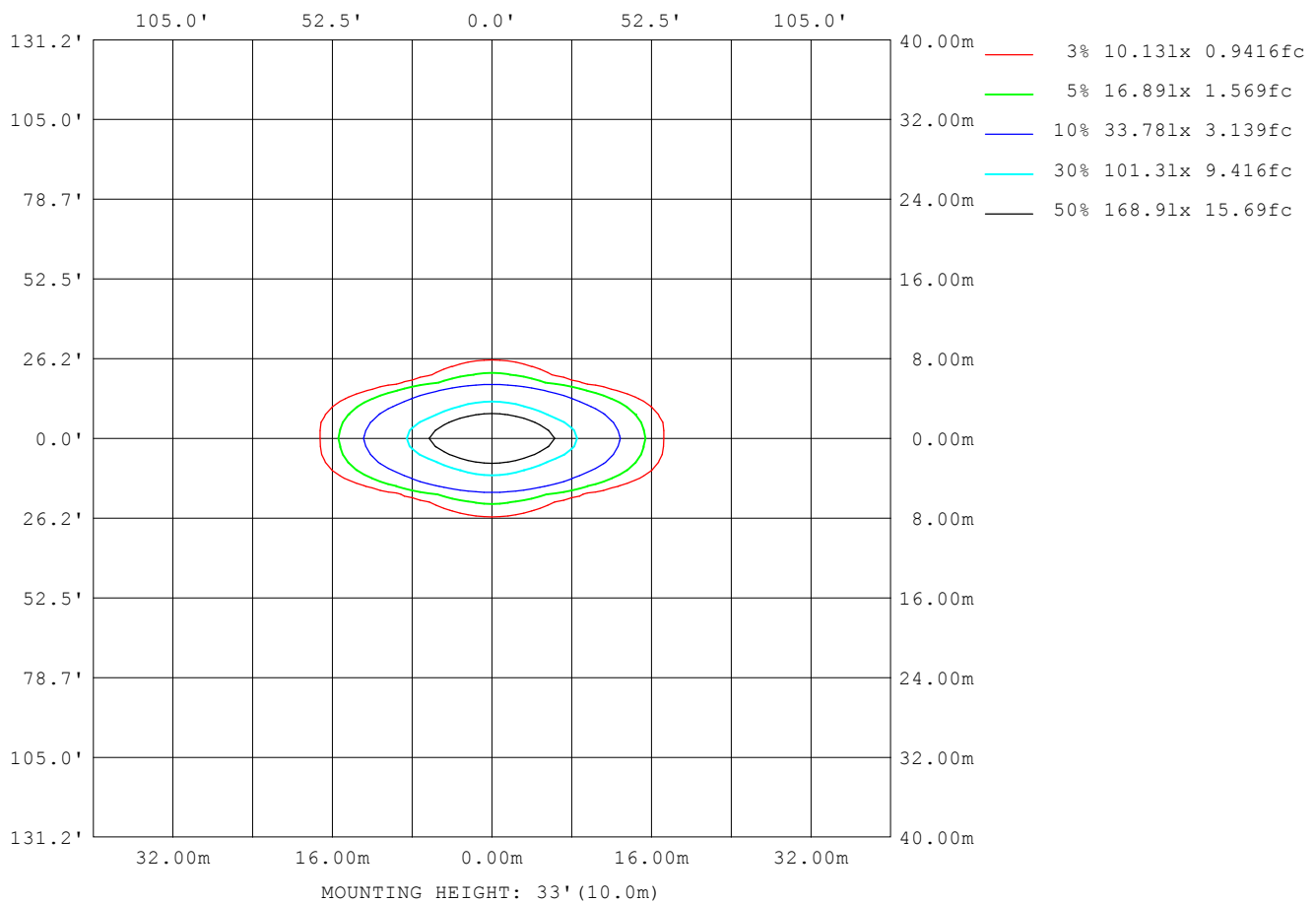
C Range: 0 - 360 DEG
C Interval: 5.0 DEG
Test Speed: HIGH
Temperature: 25.3 DEG
Operators:
Test Date: 2017-03-03

γ Range: 0 - 90 DEG
 γ Interval: 0.5 DEG
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



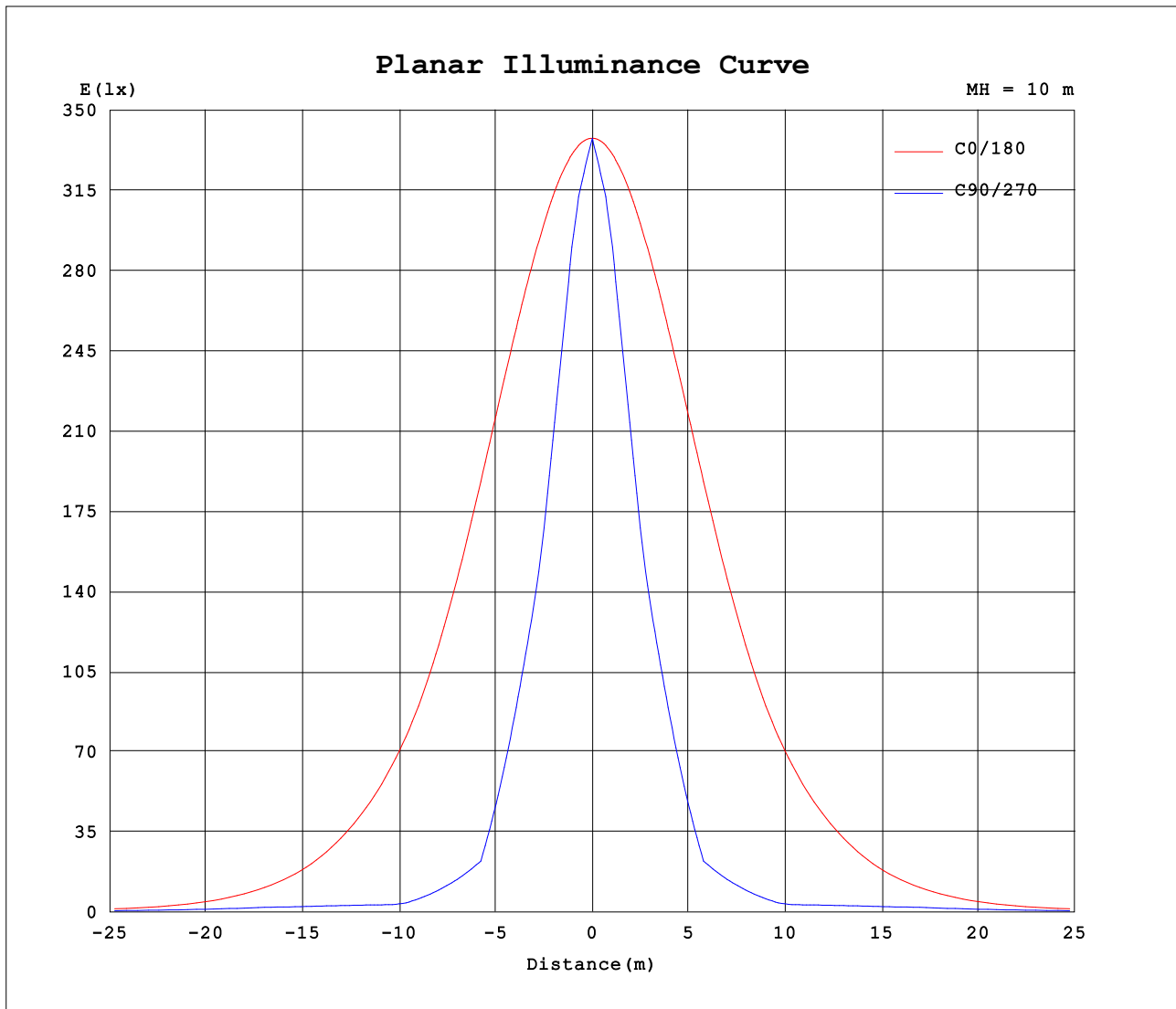
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-03

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:

Planar Illuminance Curve



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

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: