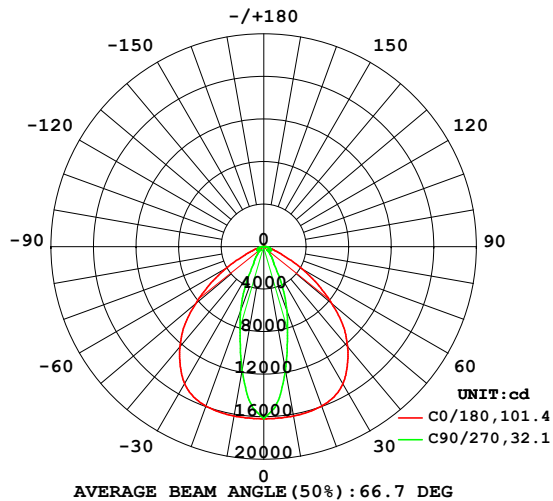


LUMINAIRE PHOTOMETRIC TEST REPORT

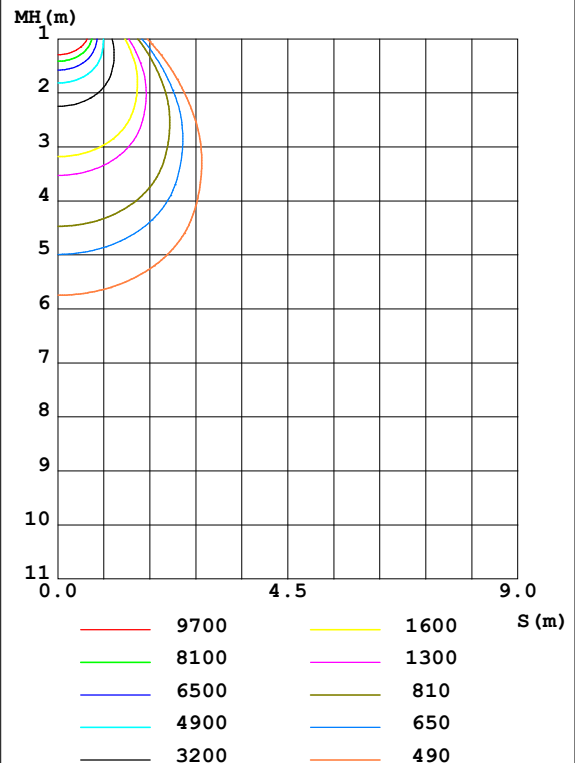
Test:U:230.1V I:0.5322A P:119.0W PF:0.9718 Lamp Flux:16393.8x1 lm		
NAME: LHB03-120	TYPE:120W	WEIGHT:
SPEC.:5000K Ra70 30*100DEG L00301	DIM.: 0.62*0.3*0.06	SERIAL No.:
MFR.:	SUR.:0.57*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 137.77 lm/W			
MODEL	LHB03-120	I _{max} (cd)	16186	S/MH(C0/180)	1.33
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH(C90/270)	0.52
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	16394	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	16393.8	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	0.65

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:2017-03-02

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	1618	1526	1471	1526	1618	1525	1471	1525	0- 5	373.6	373.6	2.28,2.28
10	1617	1350	1178	1350	1617	1349	1178	1349	5- 10	1034	1408	8.59,8.59
15	1610	1112	866.1	1112	1610	1110	866.1	1110	10- 15	1494	2902	17.7,17.7
20	1595	871.0	636.8	871.0	1595	868.5	636.8	868.5	15- 20	1754	4657	28.4,28.4
25	1560	679.7	417.8	679.7	1560	677.4	417.8	677.4	20- 25	1859	6515	39.7,39.7
30	1489	499.8	198.7	499.8	1489	498.1	198.7	498.1	25- 30	1799	8315	50.7,50.7
35	1370	317.1	146.1	317.1	1370	316.4	146.1	316.4	30- 35	1626	9941	60.6,60.6
40	1227	154.7	93.48	154.7	1227	154.3	93.48	154.3	35- 40	1447	11388	69.5,69.5
45	1058	111.7	47.27	111.7	1058	111.4	47.27	111.4	40- 45	1235	12622	77,77
50	839.9	69.20	52.33	69.20	839.9	69.27	52.33	69.27	45- 50	1001	13624	83.1,83.1
55	620.5	32.42	63.80	32.42	620.5	32.54	63.80	32.54	50- 55	786.0	14410	87.9,87.9
60	410.5	28.46	75.27	28.46	410.5	28.52	75.27	28.52	55- 60	616.2	15026	91.7,91.7
65	221.5	26.07	68.20	26.07	221.5	26.05	68.20	26.05	60- 65	482.5	15508	94.6,94.6
70	115.2	22.44	61.13	22.44	115.2	22.47	61.13	22.47	65- 70	349.8	15858	96.7,96.7
75	51.80	18.42	53.05	18.42	51.80	18.55	53.05	18.55	70- 75	247.3	16105	98.2,98.2
80	18.59	14.10	36.89	14.10	18.59	14.32	36.89	14.32	75- 80	164.5	16270	99.2,99.2
85	3.970	7.544	19.73	7.544	3.970	7.746	19.73	7.746	80- 85	90.43	16360	99.8,99.8
90	0.5070	1.453	2.562	1.453	0.5070	1.660	2.562	1.660	85- 90	33.50	16394	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): 12622 lm

%lum = 77.0%

%lamp = 77.0%

Conical surface Flux(120deg): 15026 lm

%lum = 91.7%

%lamp = 91.7%

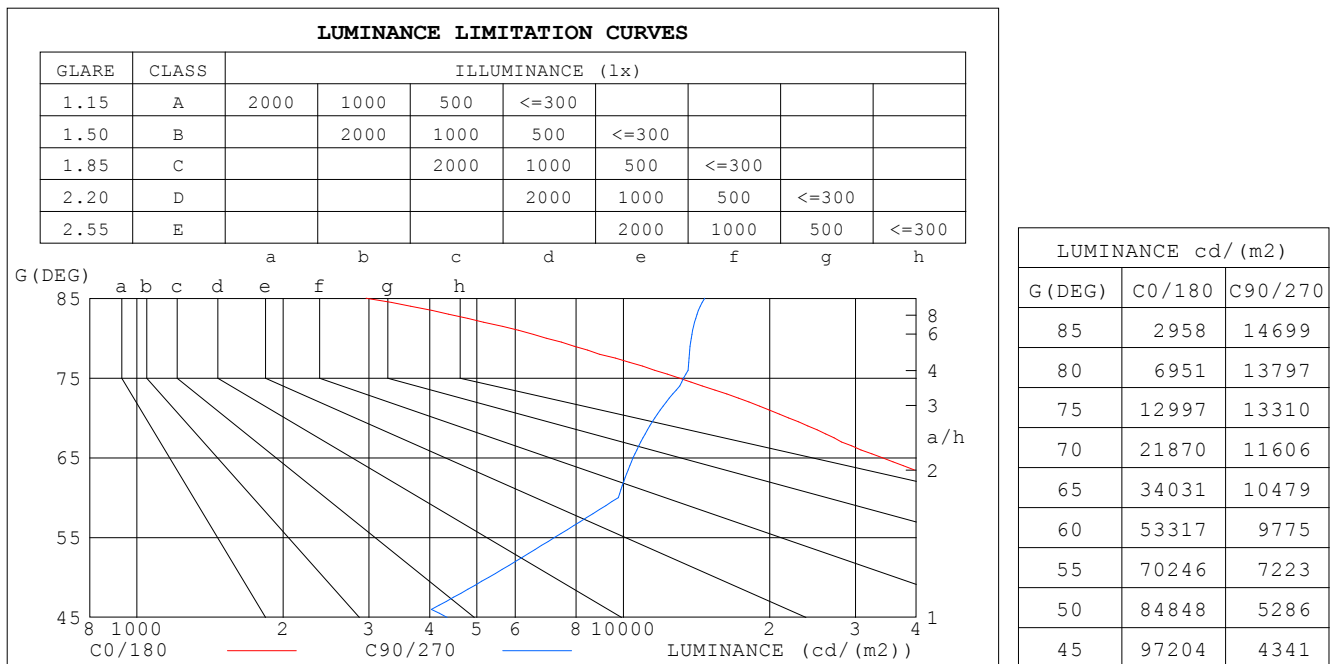
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-02

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: 2017-03-02

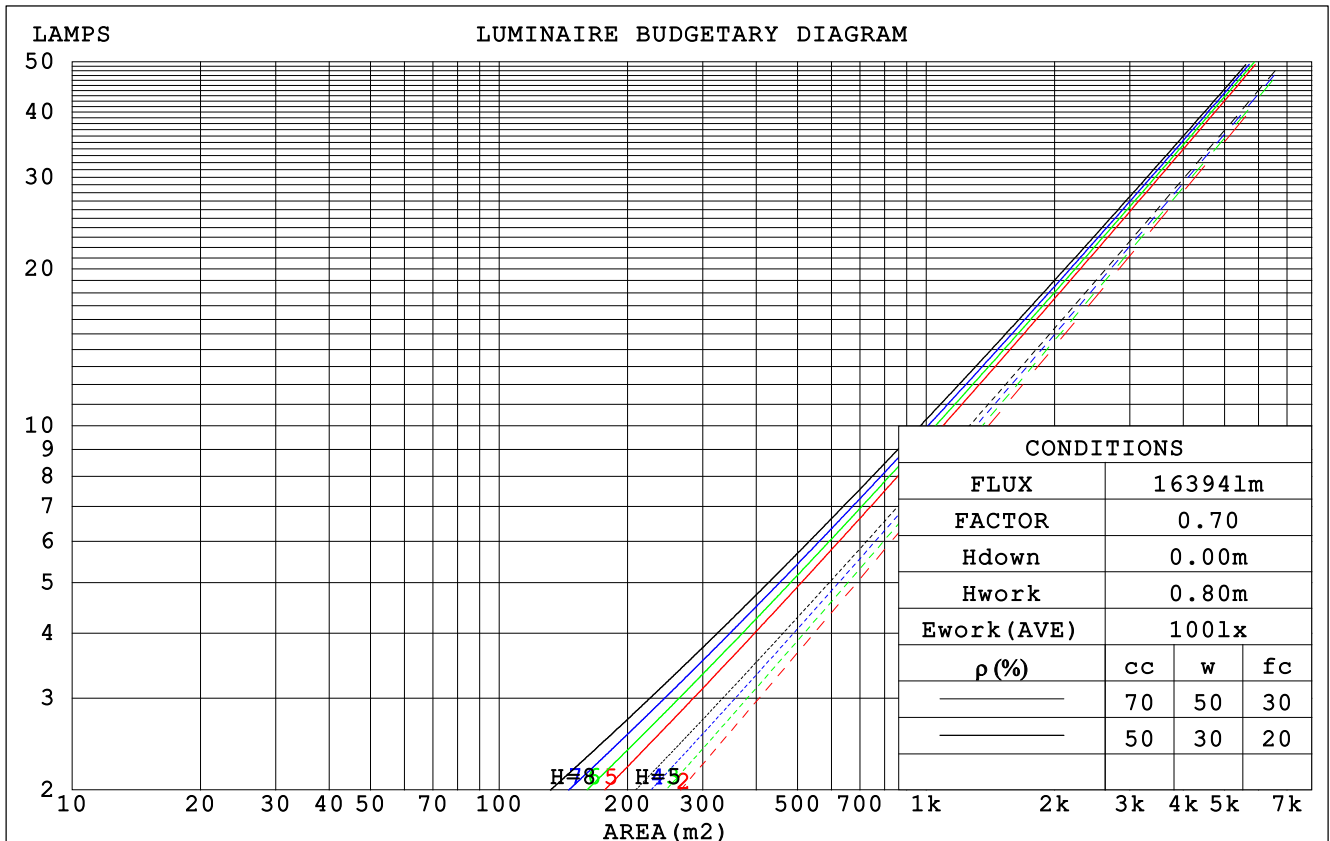
Checker:

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

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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.98	.93	.88	.96	.91	.87	.93	.89	.85	.90	.86	.83	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.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	.61	.70	.65	.61	.68	.64	.60	.59
6.0	.69	.62	.57	.68	.61	.57	.67	.61	.56	.65	.60	.56	.64	.59	.55	.54
7.0	.64	.57	.52	.63	.57	.52	.62	.56	.51	.61	.55	.51	.60	.55	.51	.49
8.0	.60	.53	.48	.59	.52	.48	.58	.52	.48	.57	.51	.47	.56	.51	.47	.45
9.0	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.53	.47	.44	.42
10.0	.53	.46	.41	.52	.46	.41	.51	.45	.41	.50	.45	.41	.50	.45	.41	.39



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-02

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	.232	.132	.042	.225	.128	.041	.212	.122	.039	.200	.115	.037	.189	.110	.035	
2.0	.221	.121	.037	.215	.118	.037	.204	.113	.035	.194	.109	.034	.184	.104	.033	
3.0	.208	.111	.033	.203	.109	.033	.193	.105	.032	.184	.101	.031	.176	.098	.030	
4.0	.195	.101	.030	.191	.100	.030	.182	.097	.029	.175	.094	.028	.167	.091	.028	
5.0	.183	.093	.027	.180	.092	.027	.172	.090	.026	.165	.087	.026	.159	.085	.025	
6.0	.173	.087	.025	.169	.085	.025	.163	.083	.024	.156	.081	.024	.151	.079	.024	
7.0	.163	.080	.023	.160	.080	.023	.154	.078	.022	.148	.076	.022	.143	.074	.022	
8.0	.154	.075	.021	.151	.074	.021	.146	.073	.021	.141	.071	.021	.136	.070	.020	
9.0	.146	.070	.020	.143	.070	.020	.139	.069	.019	.134	.067	.019	.130	.066	.019	
10.0	.138	.066	.018	.136	.066	.018	.132	.065	.018	.128	.064	.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	.141	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.107	.139	.114	.092	.096	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.153	.114	.083	.131	.098	.072	.090	.068	.051	.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	.016	.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	.100	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.062	.029	.095	.053	.025	.066	.038	.018	.038	.022	.011	.012	.007	.003	
10.0	.105	.057	.025	.091	.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:2017-03-02

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	26.9	28.1	27.2	28.3	28.5	14.9	16.1	15.1	16.2	16.4
3H	27.6	28.7	27.9	28.9	29.1	17.9	19.0	18.2	19.2	19.4
4H	27.7	28.7	28.0	29.0	29.2	19.4	20.5	19.7	20.7	20.9
6H	27.7	28.7	28.0	28.9	29.2	20.6	21.6	20.9	21.9	22.1
8H	27.6	28.6	28.0	28.8	29.1	21.1	22.0	21.4	22.3	22.5
12H	27.6	28.5	27.9	28.8	29.1	21.4	22.3	21.7	22.6	22.9
4H 2H	26.6	27.7	26.9	27.9	28.2	15.2	16.3	15.5	16.5	16.8
3H	27.3	28.2	27.7	28.5	28.8	18.4	19.3	18.7	19.6	19.9
4H	27.5	28.3	27.8	28.6	28.9	20.2	21.0	20.5	21.3	21.6
6H	27.5	28.2	27.9	28.6	28.9	21.7	22.4	22.0	22.7	23.1
8H	27.5	28.1	27.9	28.5	28.9	22.2	22.9	22.6	23.2	23.6
12H	27.4	28.0	27.8	28.4	28.8	22.7	23.3	23.1	23.7	24.0
8H 4H	27.3	28.0	27.7	28.4	28.8	20.3	20.9	20.7	21.3	21.7
6H	27.4	27.9	27.8	28.3	28.8	21.9	22.5	22.4	22.9	23.3
8H	27.4	27.9	27.8	28.3	28.7	22.7	23.1	23.1	23.6	24.0
12H	27.3	27.8	27.8	28.2	28.7	23.3	23.7	23.7	24.1	24.6
12H 4H	27.3	27.9	27.7	28.3	28.7	20.2	20.9	20.7	21.2	21.6
6H	27.4	27.8	27.8	28.3	28.7	21.9	22.4	22.4	22.8	23.3
8H	27.3	27.8	27.8	28.2	28.7	22.7	23.1	23.2	23.6	24.0
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 1.6					+ 0.2 / - 0.2				
1.5H	+ 2.9 / - 3.9					+ 0.2 / - 0.2				
2.0H	+ 4.4 / - 6.6					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 16394 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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) $k(RI) \times RCR = 5$									
$k = 0.60$	72	63	58	72	63	58	71	63	58	53
0.80	82	73	67	81	72	67	79	72	67	62
1.00	88	80	75	87	80	74	85	80	74	69
1.25	94	86	81	93	86	81	90	84	80	74
1.50	98	91	86	96	90	85	94	88	84	78
2.00	103	96	92	101	95	91	98	93	90	83
2.50	105	100	95	103	98	94	100	96	92	86
3.00	108	103	99	106	101	98	102	98	95	88
4.00	110	106	103	108	105	102	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		

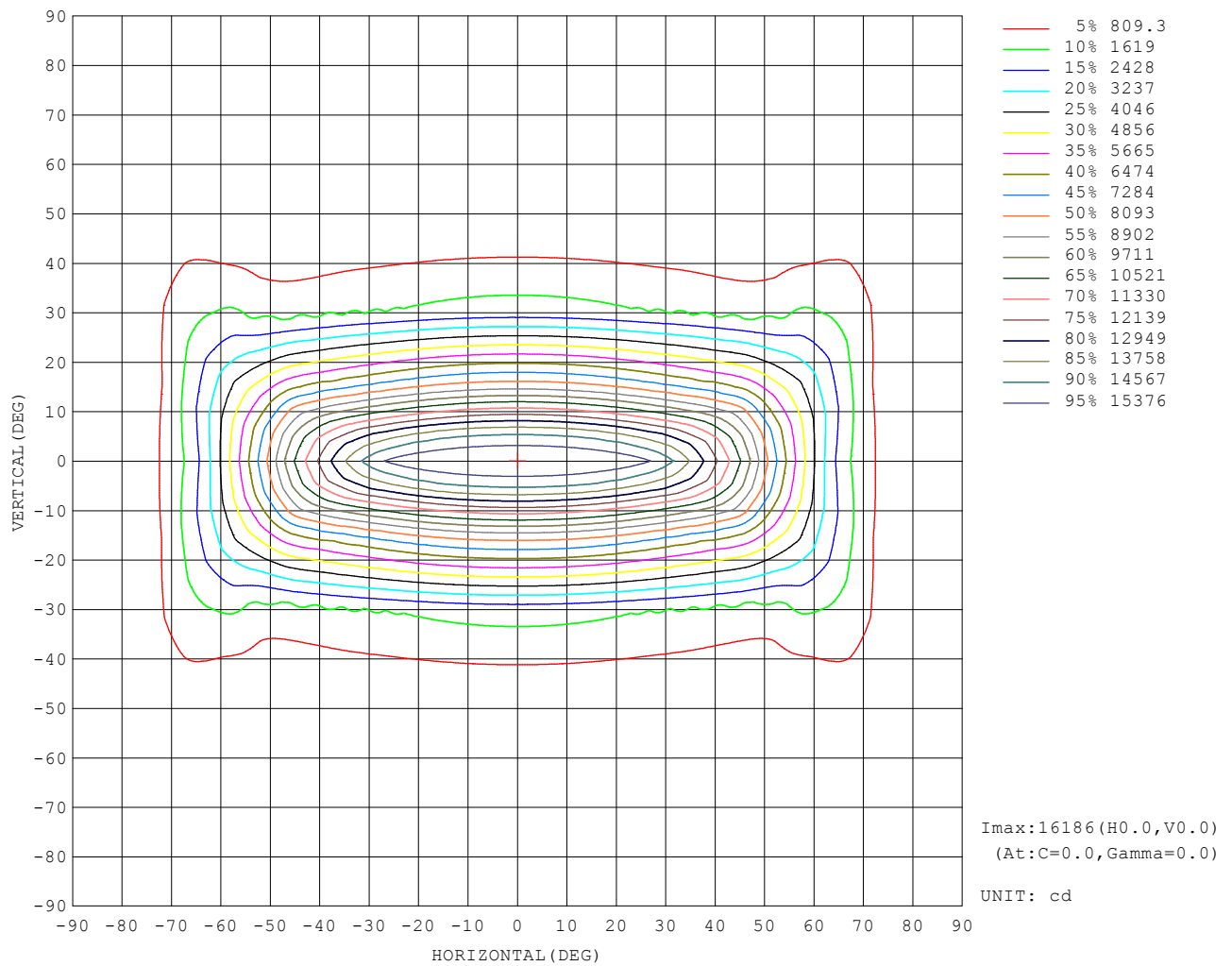
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-02

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



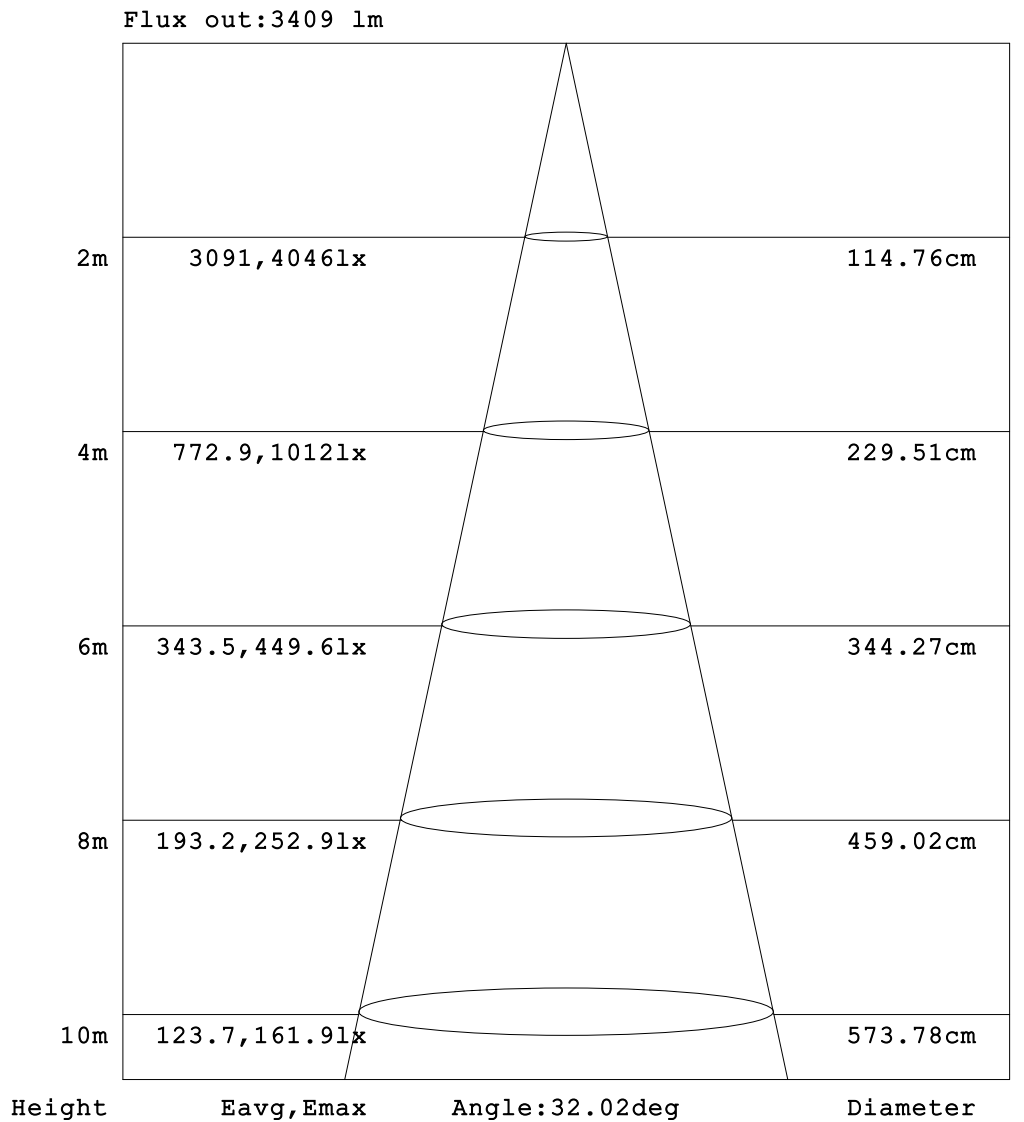
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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.

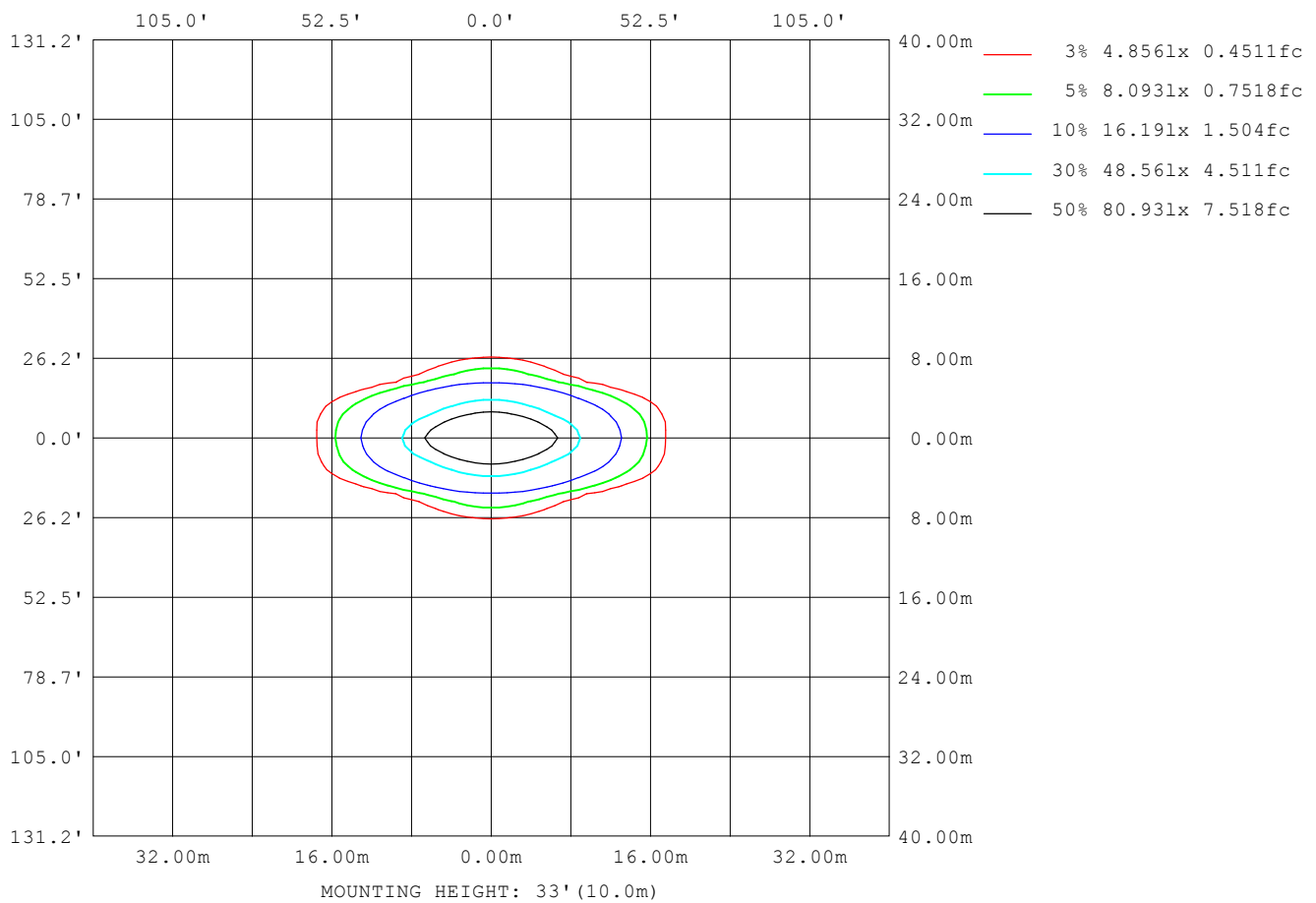
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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



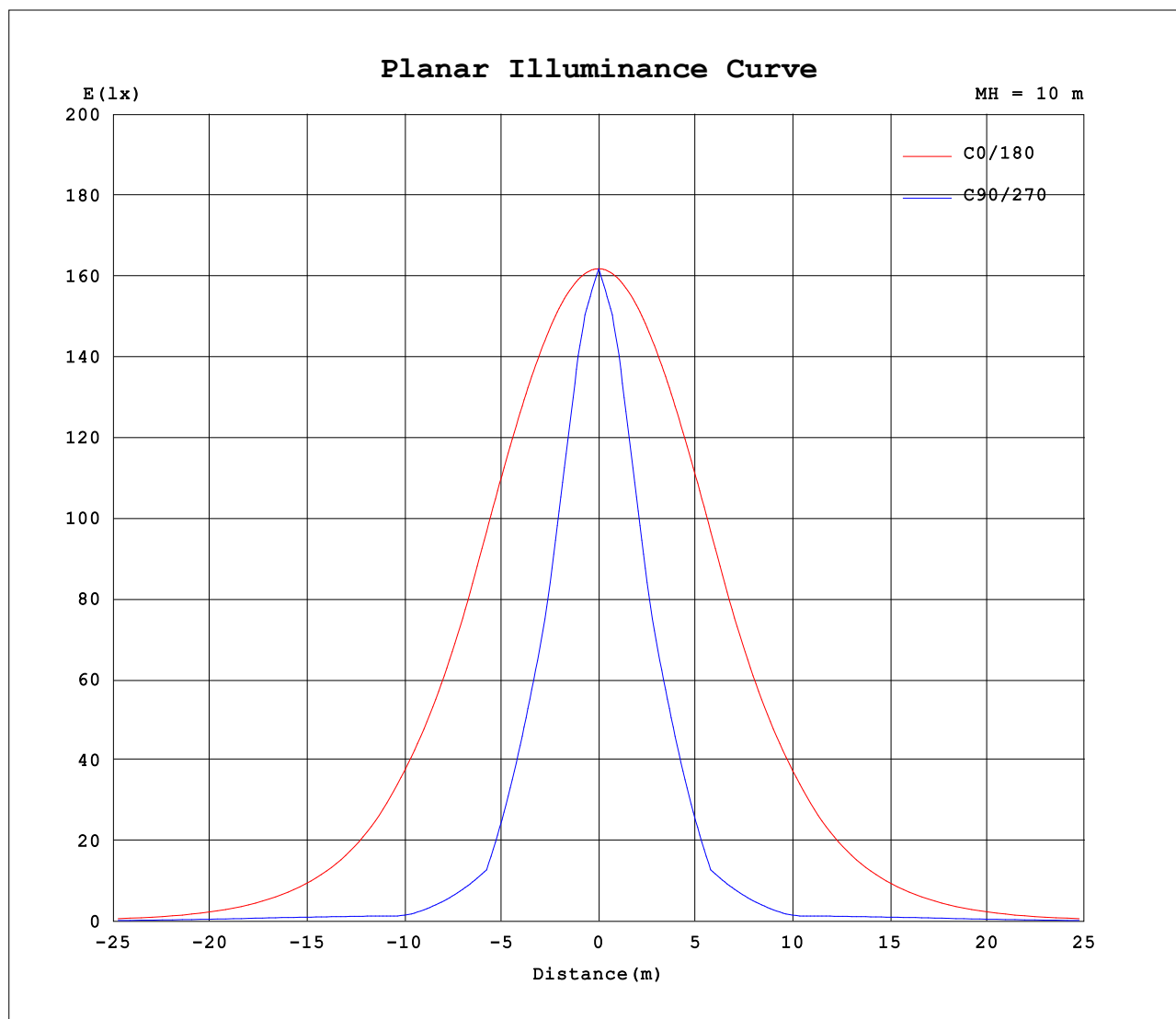
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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:

UNIT: $\times 10 \text{cd}$

Assessor: