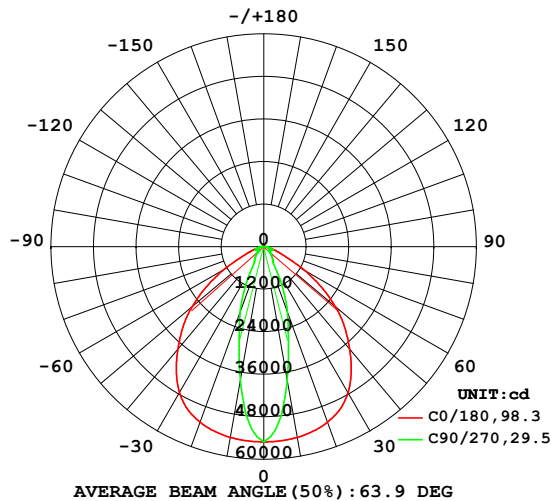


LUMINAIRE PHOTOMETRIC TEST REPORT

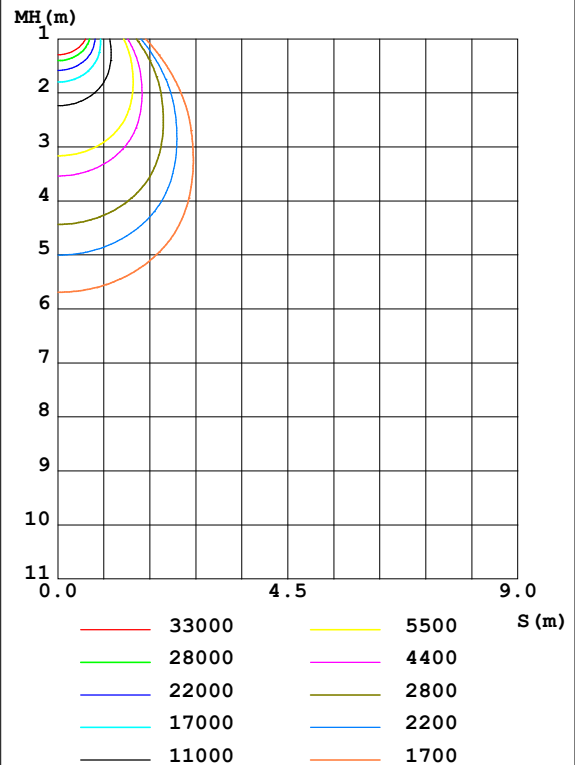
Test:U:229.8V I:1.739A P:393.9W PF:0.9856 Lamp Flux:52343.2x1 lm		
NAME: LHB03-400	TYPE:400W	WEIGHT:
SPEC.:5000K Ra80 30100DEG L00301	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.90 lm/W			
MODEL	LHB03-400	I _{max} (cd)	55057	S/MH (C0/180)	1.27
NOMINAL POWER(W)	400	LOR(%)	100.0	S/MH (C90/270)	0.48
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	52343	η UP,DN (C0-180)	0.0,49.9
NOMINAL FLUX(lm)	52343.2	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.1
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: 2017-07-03

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	5497	5184	4959	5184	5497	5185	4959	5185	0- 5	1274	1274	2.43,2.43
10	5462	4477	3824	4477	5462	4481	3824	4481	5- 10	3477	4751	9.08,9.08
15	5389	3568	2705	3568	5389	3579	2705	3579	10- 15	4915	9667	18.5,18.5
20	5269	2693	1955	2693	5269	2713	1955	2713	15- 20	5650	15317	29.3,29.3
25	5075	2055	1249	2055	5075	2075	1249	2075	20- 25	5885	21202	40.5,40.5
30	4756	1484	543.3	1484	4756	1499	543.3	1499	25- 30	5590	26792	51.2,51.2
35	4300	917.5	451.6	917.5	4300	923.2	451.6	923.2	30- 35	4962	31754	60.7,60.7
40	3769	427.8	359.9	427.8	3769	422.8	359.9	422.8	35- 40	4398	36152	69.1,69.1
45	3234	345.3	268.2	345.3	3234	340.3	268.2	340.3	40- 45	3802	39953	76.3,76.3
50	2649	263.4	176.5	263.4	2649	260.1	176.5	260.1	45- 50	3162	43115	82.4,82.4
55	1980	179.5	198.0	179.5	1980	178.3	198.0	178.3	50- 55	2492	45607	87.1,87.1
60	1295	106.1	219.4	106.1	1295	107.1	219.4	107.1	55- 60	1957	47564	90.9,90.9
65	692.6	96.97	240.9	96.97	692.6	97.75	240.9	97.75	60- 65	1571	49135	93.9,93.9
70	399.6	85.30	262.4	85.30	399.6	85.81	262.4	85.81	65- 70	1240	50375	96.2,96.2
75	194.0	71.82	197.7	71.82	194.0	72.05	197.7	72.05	70- 75	932.5	51307	98,98
80	74.96	47.92	133.0	47.92	74.96	48.10	133.0	48.10	75- 80	598.2	51905	99.2,99.2
85	19.19	25.17	68.33	25.17	19.19	25.32	68.33	25.32	80- 85	325.0	52230	99.8,99.8
90	1.727	3.623	3.642	3.623	1.727	3.746	3.642	3.746	85- 90	112.7	52343	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): 39953 lm

%lum = 76.3%

%lamp = 76.3%

Conical surface Flux(120deg): 47564 lm

%lum = 90.9%

%lamp = 90.9%

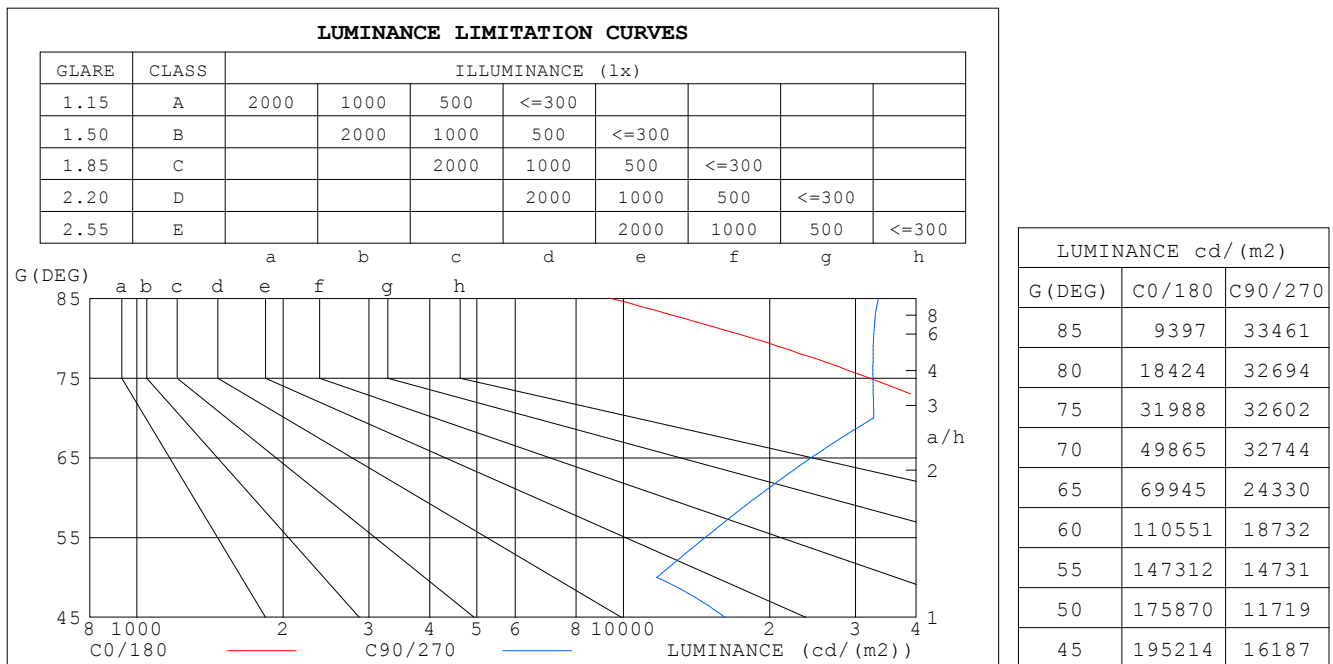
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-07-03

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

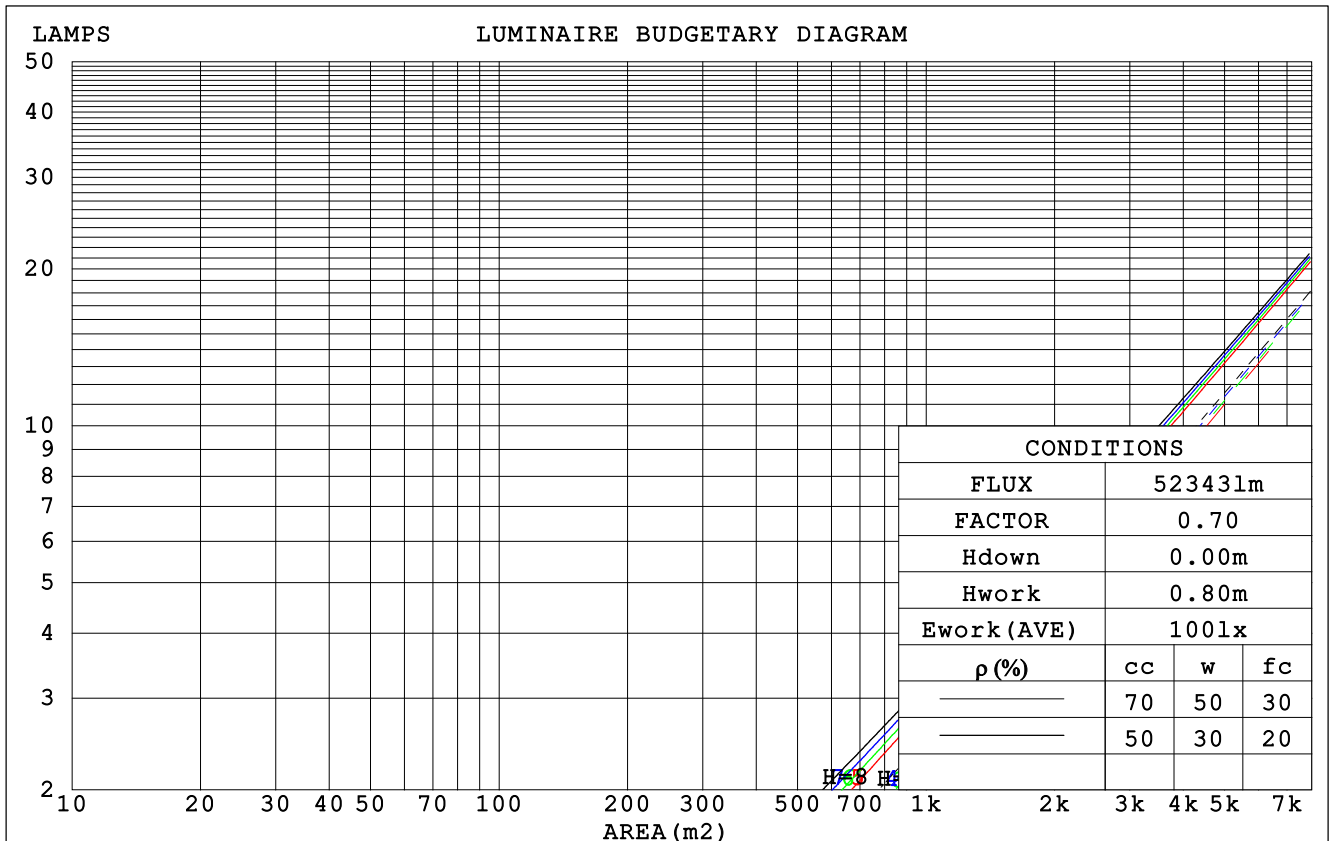
Checker:

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	.00
1.0	1.08	1.05	1.02	1.06	1.03	.00	1.01	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.98	.92	.88	.96	.91	.87	.92	.88	.85	.89	.86	.83	.86	.84	.81	.79
3.0	.89	.82	.77	.87	.82	.77	.85	.80	.75	.82	.78	.74	.80	.76	.73	.71
4.0	.81	.74	.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	.58
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	.47	.56	.51	.47	.46
9.0	.56	.49	.45	.56	.49	.45	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
10.0	.53	.46	.42	.52	.46	.42	.51	.46	.41	.51	.45	.41	.50	.45	.41	.40



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

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	.234	.133	.042	.228	.130	.041	.215	.123	.039	.203	.117	.038	.192	.111	.036	
2.0	.223	.122	.037	.217	.119	.037	.206	.114	.036	.196	.110	.034	.186	.105	.033	
3.0	.209	.111	.033	.204	.109	.033	.194	.105	.032	.185	.102	.031	.177	.098	.030	
4.0	.196	.102	.030	.191	.100	.030	.183	.097	.029	.175	.094	.028	.168	.091	.028	
5.0	.184	.094	.027	.180	.092	.027	.172	.090	.026	.165	.087	.026	.159	.085	.026	
6.0	.173	.086	.025	.169	.085	.025	.163	.083	.024	.156	.081	.024	.151	.079	.024	
7.0	.163	.080	.023	.159	.079	.023	.154	.078	.022	.148	.076	.022	.143	.074	.022	
8.0	.153	.075	.021	.151	.074	.021	.146	.073	.021	.141	.071	.021	.136	.070	.020	
9.0	.145	.070	.020	.143	.070	.020	.138	.068	.019	.134	.067	.019	.130	.066	.019	
10.0	.138	.066	.018	.136	.066	.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	.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	.061	.029	.095	.053	.025	.066	.037	.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:2017-07-03

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	29.3	30.4	29.5	30.6	30.8	17.6	18.8	17.9	19.0	19.2
3H	30.0	31.1	30.3	31.3	31.6	21.5	22.6	21.7	22.8	23.0
4H	30.2	31.3	30.5	31.5	31.7	23.1	24.1	23.3	24.3	24.6
6H	30.2	31.2	30.5	31.5	31.7	24.2	25.2	24.5	25.4	25.7
8H	30.2	31.1	30.5	31.4	31.7	24.6	25.5	24.9	25.8	26.1
12H	30.2	31.1	30.5	31.3	31.6	24.9	25.8	25.2	26.1	26.4
4H 2H	29.0	30.0	29.3	30.3	30.5	18.1	19.2	18.4	19.4	19.6
3H	29.8	30.7	30.1	31.0	31.3	22.0	22.9	22.4	23.2	23.5
4H	30.0	30.8	30.4	31.1	31.5	23.8	24.6	24.2	24.9	25.3
6H	30.1	30.8	30.5	31.2	31.5	25.1	25.9	25.5	26.2	26.6
8H	30.1	30.8	30.5	31.1	31.5	25.7	26.3	26.1	26.7	27.1
12H	30.1	30.7	30.5	31.1	31.5	26.1	26.7	26.5	27.1	27.5
8H 4H	29.9	30.6	30.3	30.9	31.3	23.9	24.5	24.3	24.9	25.3
6H	30.0	30.6	30.4	31.0	31.4	25.4	25.9	25.8	26.3	26.8
8H	30.0	30.5	30.5	30.9	31.4	26.0	26.5	26.5	26.9	27.4
12H	30.0	30.4	30.5	30.9	31.4	26.6	27.0	27.1	27.5	27.9
12H 4H	29.9	30.5	30.3	30.9	31.3	23.8	24.5	24.3	24.8	25.2
6H	30.0	30.5	30.4	30.9	31.3	25.4	25.9	25.8	26.3	26.7
8H	30.0	30.4	30.5	30.9	31.3	26.0	26.5	26.5	26.9	27.4
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 1.5					+ 0.2 / - 0.2				
1.5H	+ 2.8 / - 3.2					+ 0.1 / - 0.2				
2.0H	+ 4.2 / - 5.1					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 52343 lm Total Lamp Luminous Flux.(8log(F/F0) = 13.8)

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

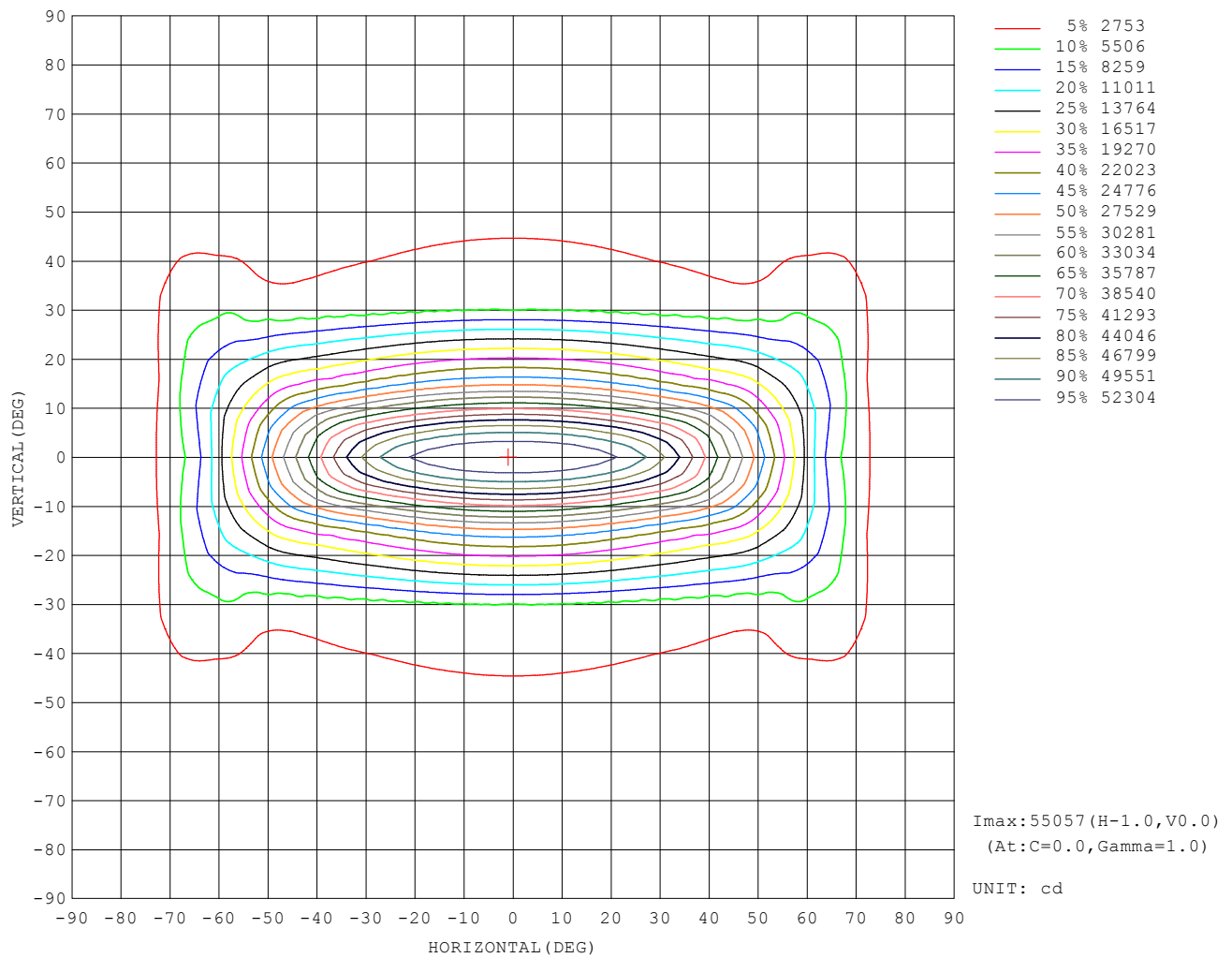
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-07-03

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



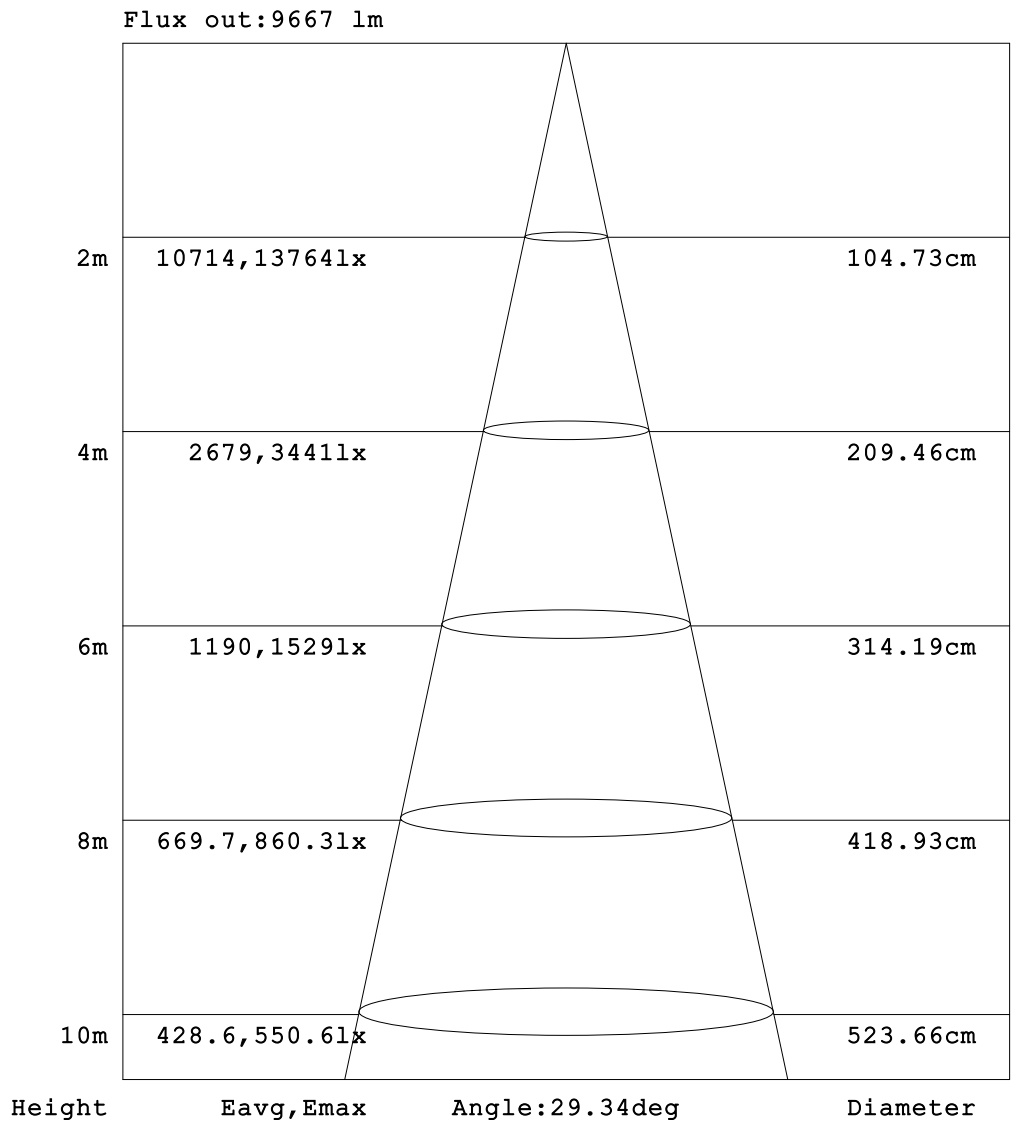
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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.

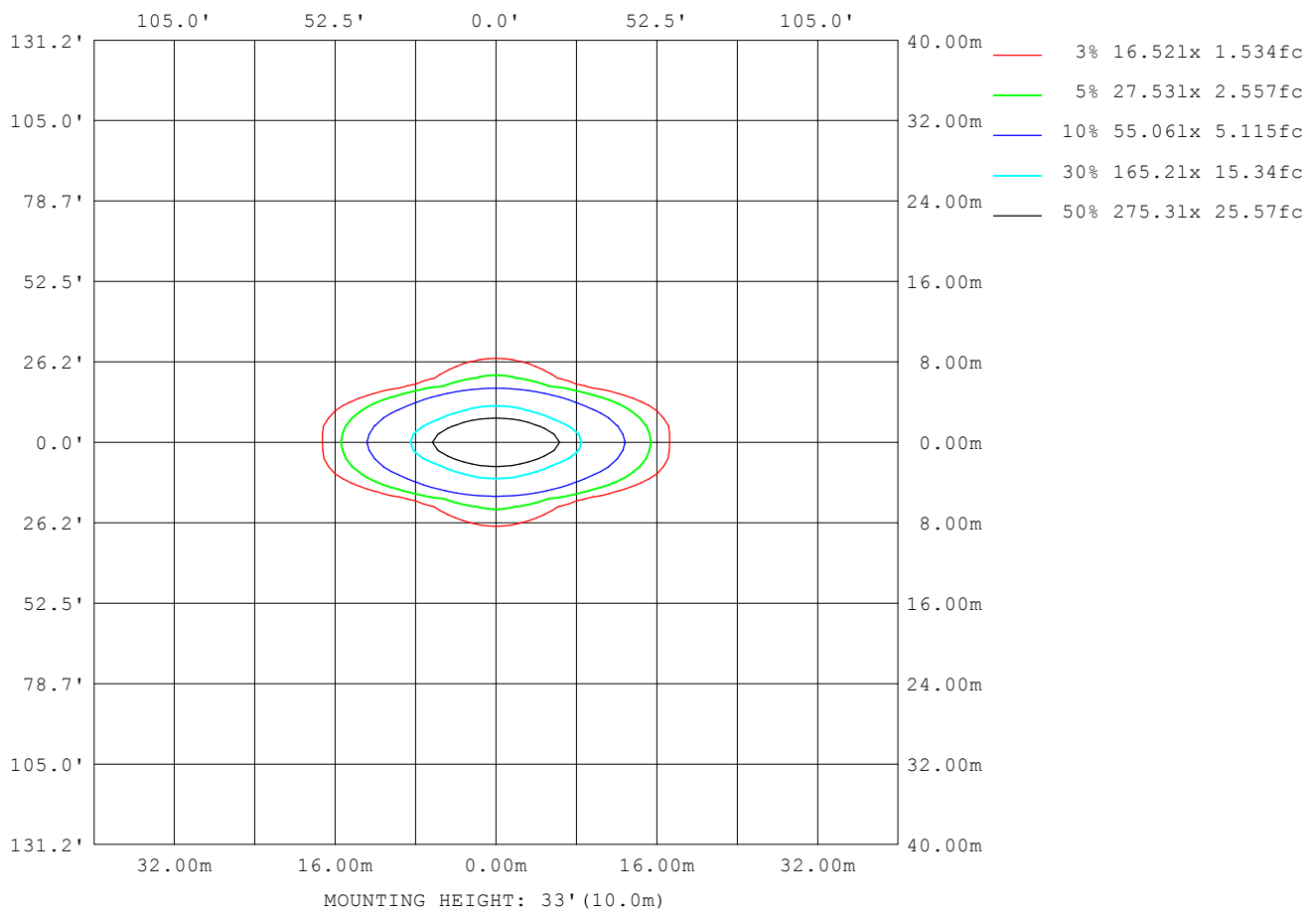
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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



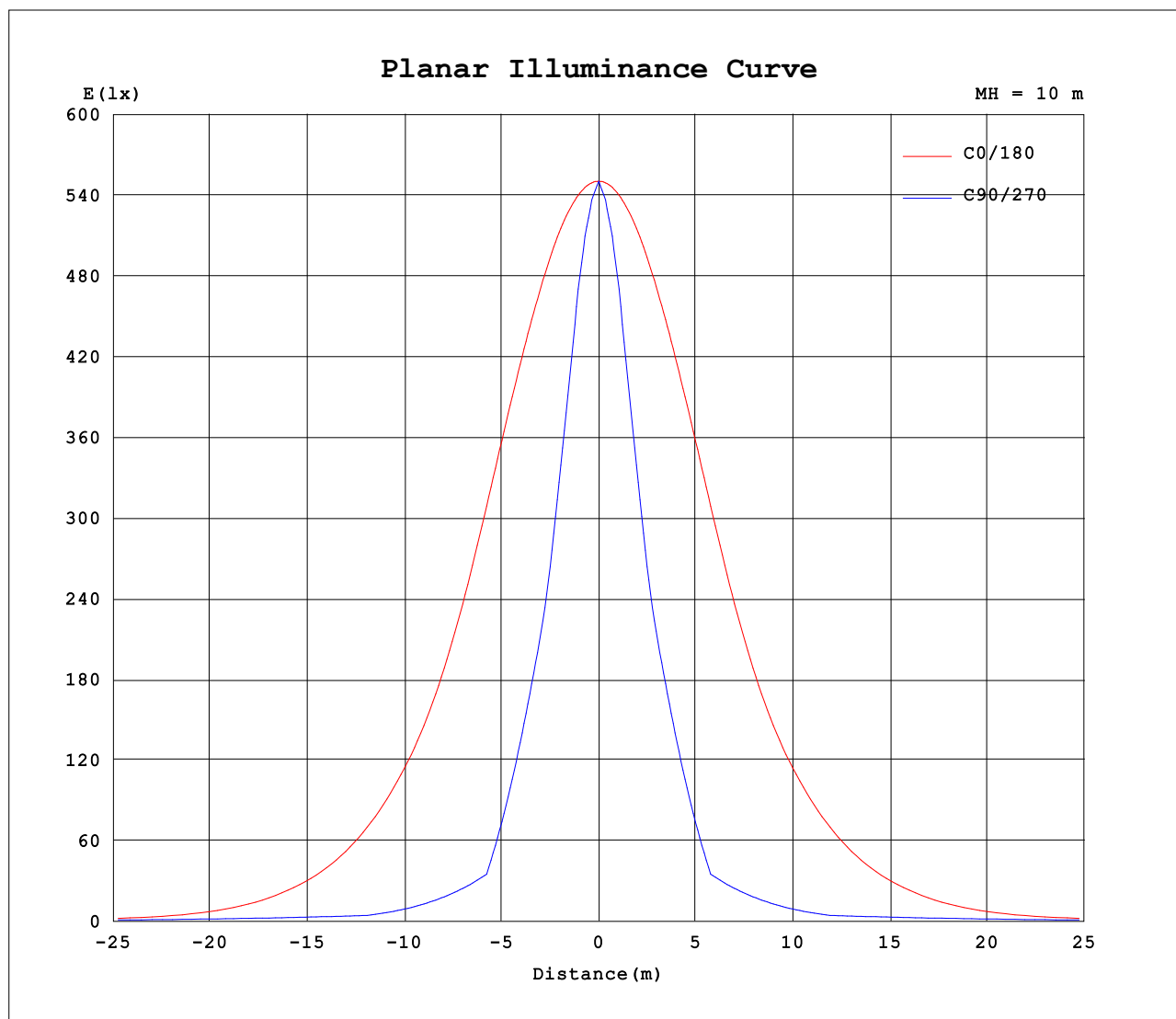
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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: