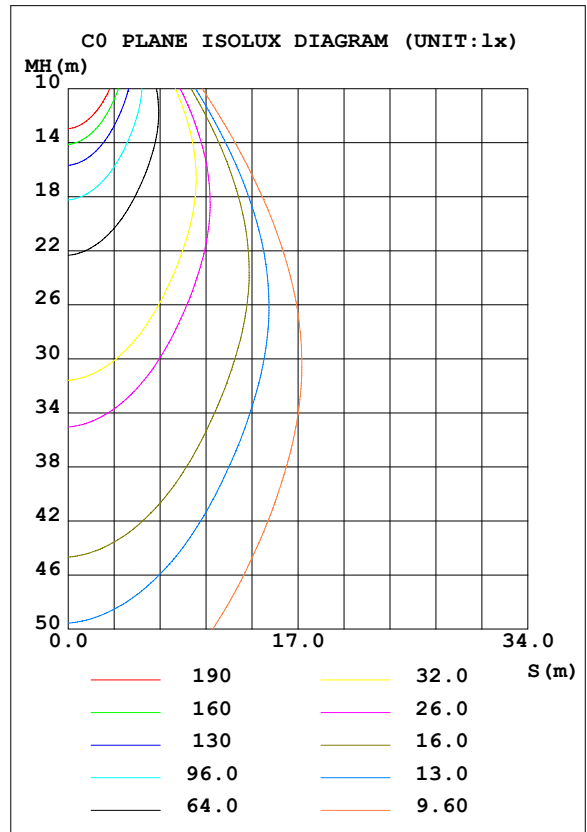
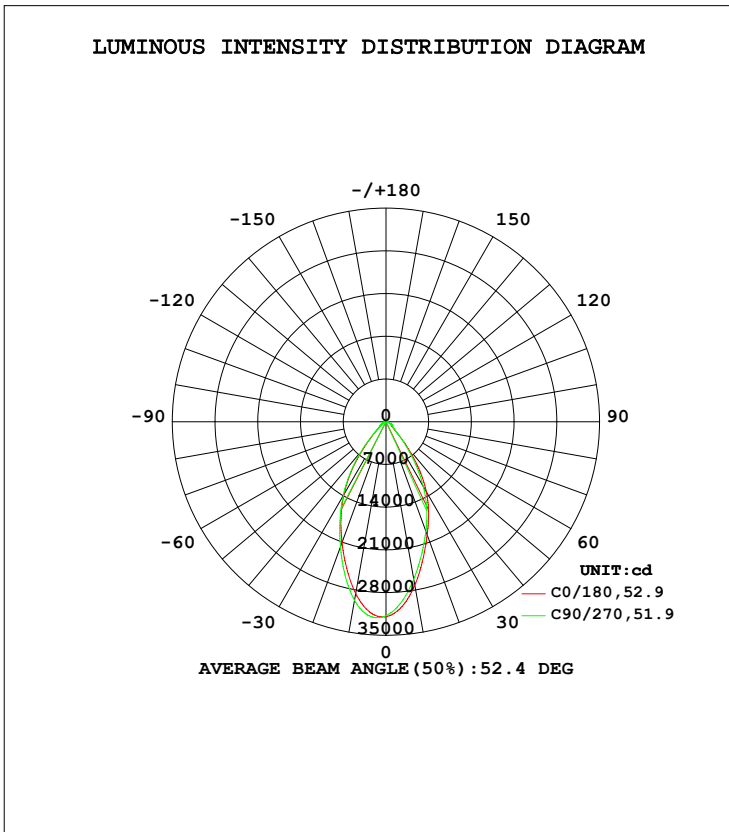


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.4V I:0.9158A P:197.8W PF:0.9844 Freq:49.99Hz Lamp Flux:27935.2x1 lm		
NAME: 200W LED HIGH BAY LIGHT 60°	TYPE:UFO	WEIGHT:
SPEC.:PHILIPS 3030	DIM.: φ345mm	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:φ245mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 141.23 lm/W			
MODEL	QH-HBUFO-200W	I _{max} (cd)	32229	S/MH (C0/180)	0.80
NOMINAL POWER (W)	200	LOR (%)	100.0	S/MH (C90/270)	0.82
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	27935	η UP, DN (C0-180)	0.0, 47.9
NOMINAL FLUX (lm)	27935.2	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.90



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity: 65.0%
 Test Distance: 9.850m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2722	2635	2620	2680	2859	2974	2971	2845	0- 10	2841	2841	10.2,10.2
20	1976	1911	1912	1941	2107	2186	2183	2089	10- 20	6721	9562	34.2,34.2
30	1323	1228	1220	1257	1382	1434	1404	1394	20- 30	7695	17256	61.8,61.8
40	542.3	486.9	493.6	517.7	588.0	629.7	630.9	603.5	30- 40	5813	23069	82.6,82.6
50	145.8	156.4	163.8	165.9	162.1	156.3	155.9	150.7	40- 50	2329	25398	90.9,90.9
60	96.32	102.1	106.1	106.3	97.70	94.91	96.14	98.70	50- 60	1098	26496	94.8,94.8
70	59.42	62.84	65.19	64.64	59.33	57.22	57.54	59.36	60- 70	791.1	27287	97.7,97.7
80	30.88	33.54	33.25	33.37	31.04	30.82	29.92	31.31	70- 80	483.7	27771	99.4,99.4
90	0.4016	0.5292	0.5579	0.4485	0.3509	0.3164	0.3203	0.4101	80- 90	164.2	27935	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 24565 lm

%lum = 87.9%
 %lamp = 87.9%

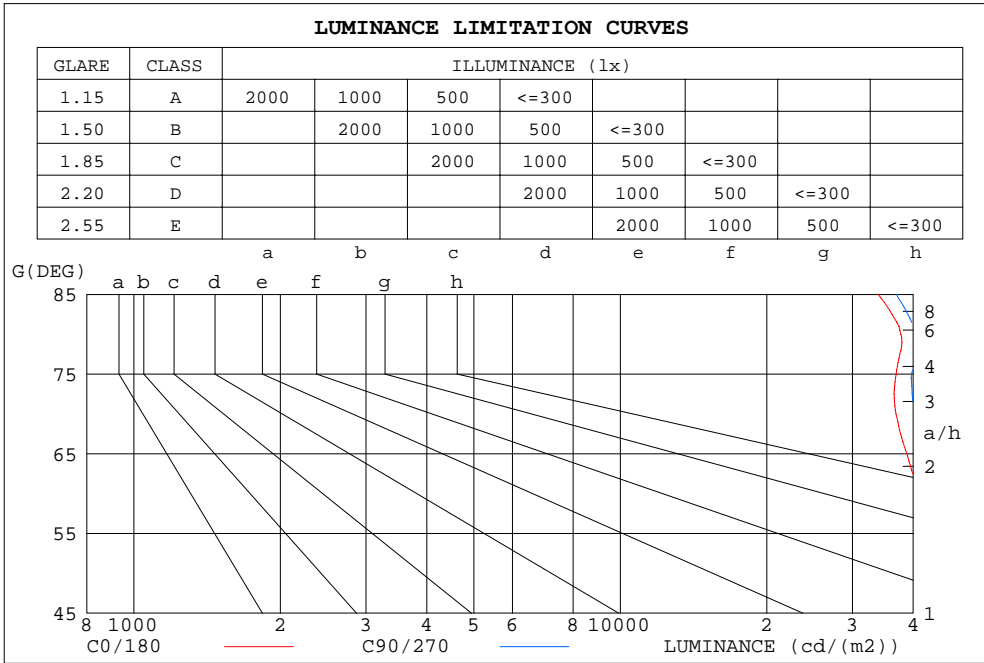
Conical surface Flux(120deg): 26496 lm

%lum = 94.8%
 %lamp = 94.8%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:9.850m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



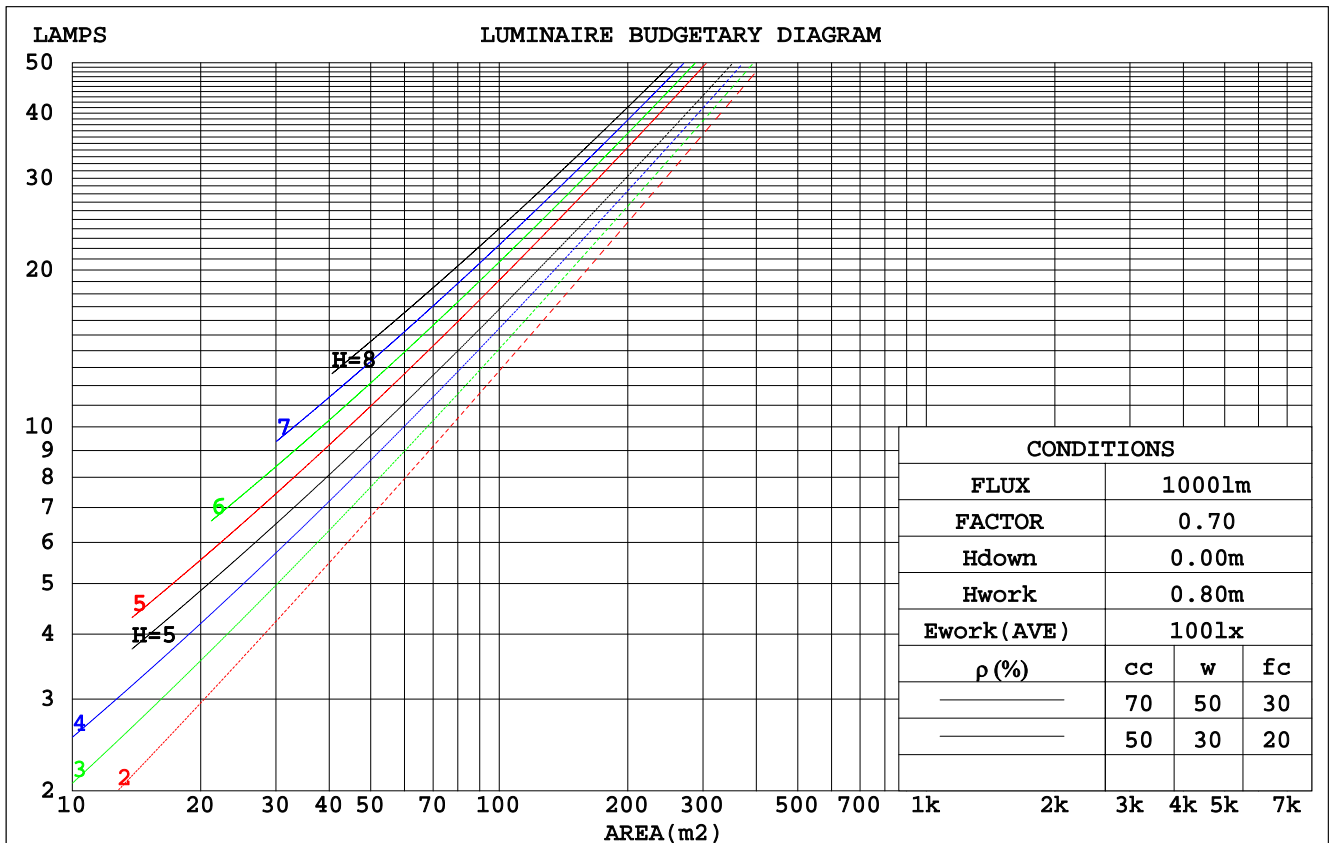
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	33908	36952
80	37759	40652
75	36892	39677
70	36884	40468
65	38809	42787
60	40900	45048
55	42688	47368
50	48154	54111
45	77692	79125

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity: 65.0%
 Test Distance: 9.850m [K=1.0000]
 Remarks:

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	1.04	1.07	1.04	1.02	1.03	1.01	.99	.99	.98	.96	.96	.94	.93	.91
2.0	1.00	.96	.92	.99	.94	.91	.95	.92	.89	.92	.89	.87	.89	.87	.85	.83
3.0	.93	.87	.83	.91	.86	.82	.89	.84	.81	.86	.82	.79	.84	.81	.78	.76
4.0	.86	.80	.75	.85	.79	.74	.82	.77	.74	.80	.76	.73	.78	.75	.72	.70
5.0	.80	.73	.69	.79	.73	.68	.77	.72	.68	.75	.71	.67	.74	.70	.66	.65
6.0	.74	.68	.63	.74	.67	.63	.72	.67	.63	.71	.66	.62	.69	.65	.62	.60
7.0	.70	.63	.59	.69	.63	.58	.68	.62	.58	.66	.61	.58	.65	.61	.57	.56
8.0	.65	.59	.54	.65	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.54	.52
9.0	.62	.55	.51	.61	.55	.51	.60	.55	.51	.59	.54	.50	.58	.54	.50	.49
10.0	.58	.52	.48	.58	.52	.48	.57	.51	.48	.56	.51	.47	.55	.51	.47	.46



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity: 65.0%
 Test Distance: 9.850m [K=1.0000]
 Remarks:

WEC AND CCEC

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.207	.118	.037	.200	.114	.036	.187	.107	.034	.176	.101	.032	.165	.095	.031	
2.0	.196	.107	.033	.190	.105	.032	.180	.100	.031	.170	.095	.030	.160	.091	.029	
3.0	.185	.098	.029	.180	.096	.029	.171	.092	.028	.162	.089	.027	.154	.085	.026	
4.0	.174	.091	.027	.170	.089	.026	.162	.086	.026	.154	.083	.025	.147	.080	.024	
5.0	.165	.084	.024	.161	.083	.024	.154	.080	.024	.147	.078	.023	.141	.075	.023	
6.0	.156	.078	.022	.152	.077	.022	.146	.075	.022	.140	.073	.021	.135	.071	.021	
7.0	.148	.073	.021	.145	.072	.021	.139	.070	.020	.134	.069	.020	.129	.067	.020	
8.0	.140	.069	.019	.138	.068	.019	.133	.066	.019	.128	.065	.019	.124	.064	.019	
9.0	.134	.065	.018	.131	.064	.018	.127	.063	.018	.123	.062	.018	.119	.060	.017	
10.0	.128	.061	.017	.125	.061	.017	.121	.060	.017	.118	.058	.017	.114	.057	.016	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.159	.132	.110	.137	.114	.095	.094	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.148	.114	.086	.127	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.138	.099	.069	.119	.086	.060	.082	.060	.042	.047	.035	.025	.015	.011	.008	
5.0	.130	.088	.057	.112	.076	.050	.077	.053	.035	.045	.031	.021	.014	.010	.007	
6.0	.123	.079	.047	.105	.068	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006	
7.0	.116	.071	.040	.100	.062	.035	.069	.043	.025	.040	.026	.015	.013	.008	.005	
8.0	.110	.065	.034	.095	.057	.030	.066	.040	.021	.038	.023	.013	.012	.008	.004	
9.0	.105	.060	.030	.090	.052	.026	.063	.037	.019	.037	.022	.011	.012	.007	.004	
10.0	.100	.056	.026	.086	.048	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:9.850m [K=1.0000]
 Remarks:

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	12.6	13.7	12.8	13.8	14.0	12.5	13.6	12.8	13.8	14.0
3H	13.2	14.2	13.4	14.4	14.6	13.2	14.2	13.5	14.4	14.6
4H	13.5	14.4	13.8	14.7	14.9	13.6	14.5	13.9	14.8	15.0
6H	13.8	14.7	14.1	14.9	15.2	14.0	14.8	14.3	15.1	15.3
8H	13.9	14.8	14.3	15.0	15.3	14.1	14.9	14.4	15.2	15.5
12H	14.0	14.8	14.3	15.1	15.4	14.2	15.0	14.5	15.3	15.6
4H 2H	12.7	13.7	13.0	13.9	14.1	12.7	13.6	13.0	13.9	14.1
3H	13.5	14.4	13.9	14.6	14.9	13.6	14.4	13.9	14.7	15.0
4H	14.0	14.8	14.4	15.1	15.4	14.1	14.9	14.5	15.2	15.5
6H	14.5	15.2	14.9	15.5	15.8	14.7	15.3	15.1	15.7	16.0
8H	14.7	15.3	15.1	15.7	16.0	14.9	15.5	15.3	15.8	16.2
12H	14.8	15.4	15.2	15.8	16.1	15.0	15.6	15.4	16.0	16.3
8H 4H	14.2	14.8	14.6	15.2	15.5	14.3	14.9	14.7	15.3	15.6
6H	14.9	15.4	15.3	15.8	16.2	15.0	15.5	15.4	15.9	16.3
8H	15.1	15.6	15.6	16.0	16.4	15.3	15.8	15.8	16.2	16.6
12H	15.4	15.7	15.8	16.2	16.6	15.6	15.9	16.0	16.4	16.8
12H 4H	14.2	14.8	14.6	15.2	15.5	14.3	14.9	14.7	15.3	15.6
6H	14.9	15.4	15.4	15.8	16.2	15.1	15.5	15.5	15.9	16.4
8H	15.3	15.6	15.7	16.1	16.5	15.4	15.8	15.9	16.2	16.7
Variations with the observer position at spacings:										
S = 1.0H	+ 1.1 / - 1.1					+ 0.8 / - 0.9				
1.5H	+ 2.3 / - 1.0					+ 1.8 / - 0.8				
2.0H	+ 0.9 / - 0.4					+ 0.8 / - 0.4				

CIE Pub.117, 27935 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 11.6)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:9.850m [K=1.0000]
 Remarks:

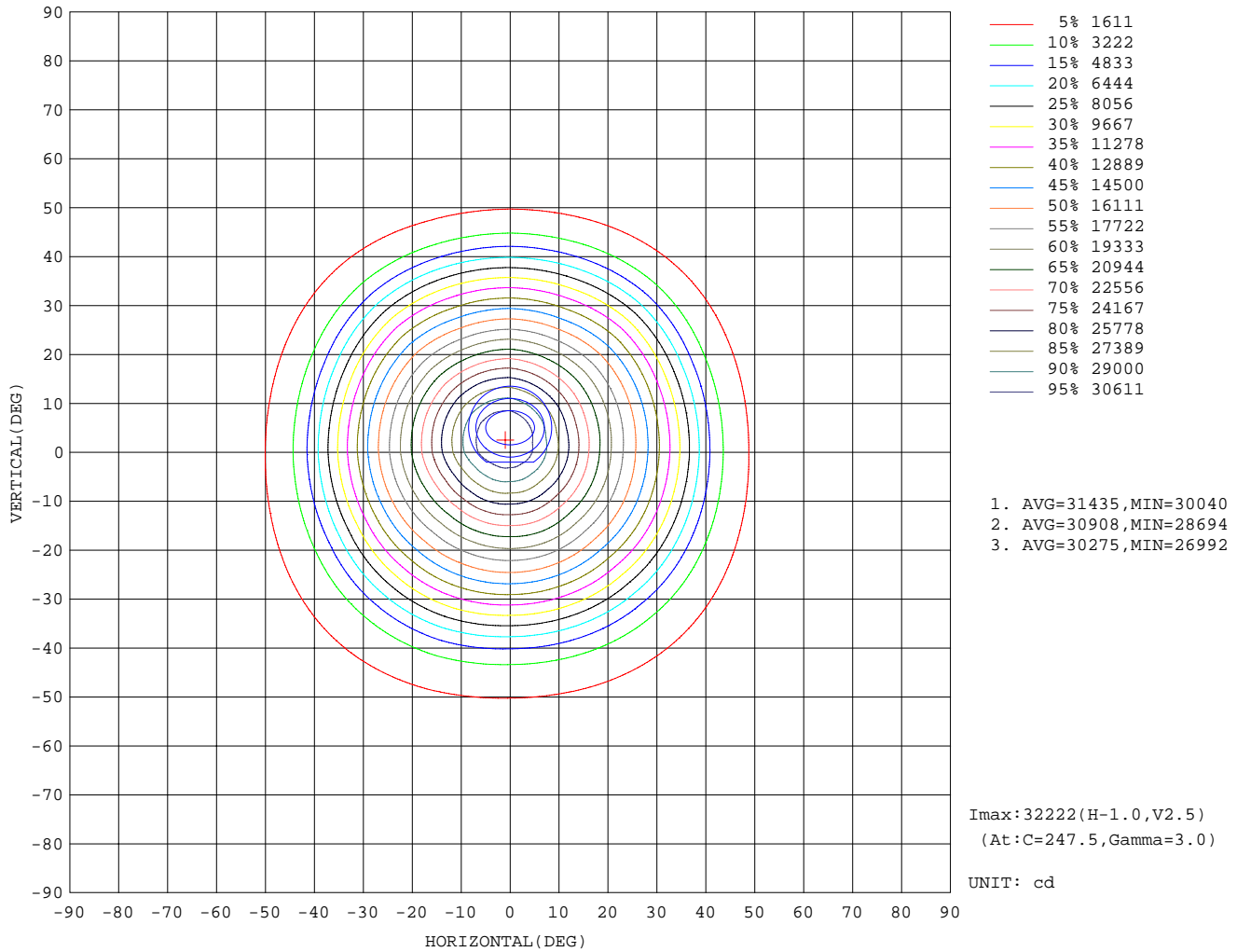
UTILIZATION FACTORS TABLE

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	81	73	69	80	73	69	79	73	69	64
0.80	89	82	77	88	81	77	87	81	77	72
1.00	94	87	83	93	87	83	92	87	82	78
1.25	99	93	88	98	92	88	96	91	87	82
1.50	102	96	92	101	95	92	98	94	91	85
2.00	106	101	97	104	99	96	101	97	94	89
2.50	108	103	99	106	102	99	103	99	97	90
3.00	110	106	102	108	104	101	104	101	99	92
4.00	112	109	106	110	107	105	106	104	102	94
5.00	114	111	108	111	109	107	107	105	104	96
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:9.850m [K=1.0000]
 Remarks:

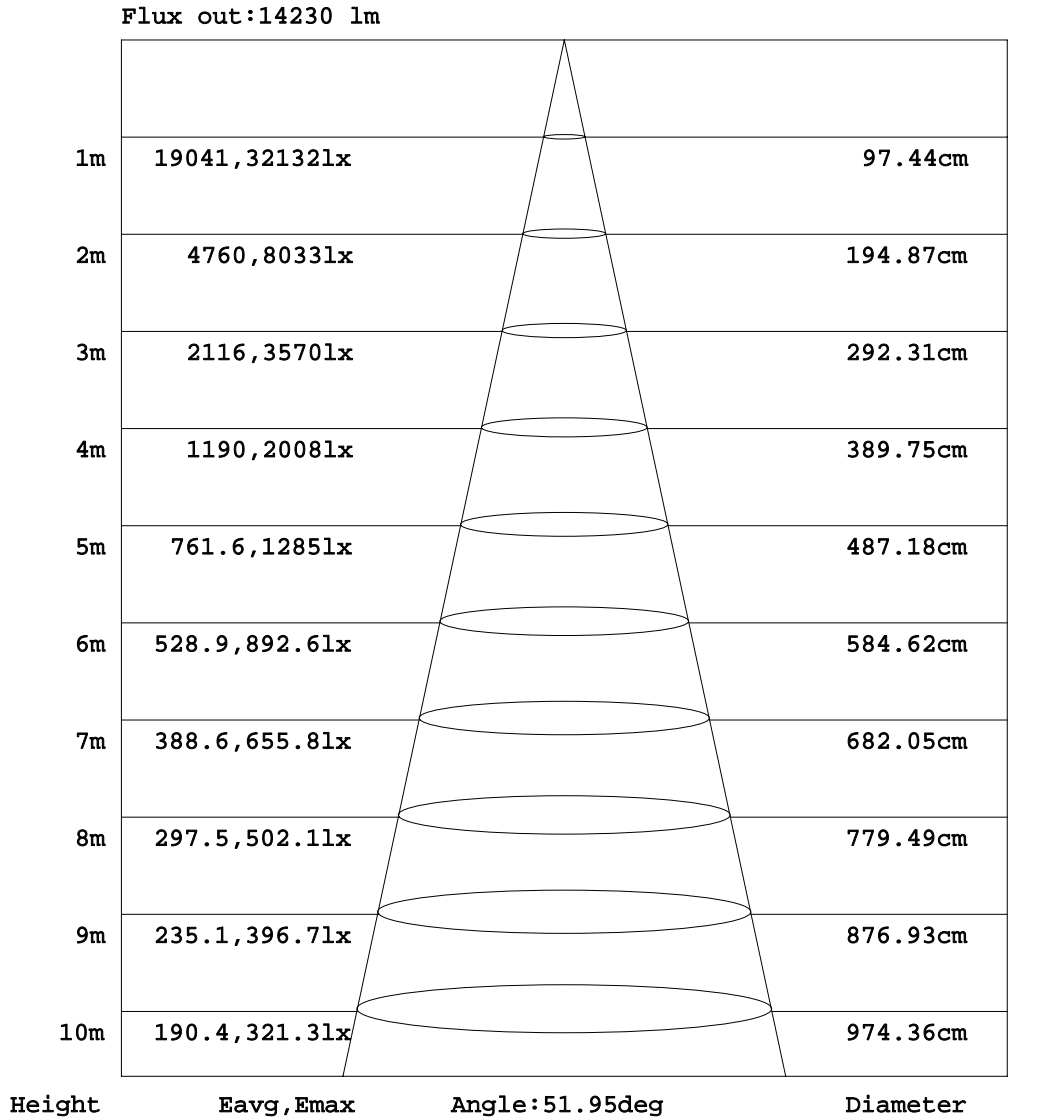
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:9.850m [K=1.0000]
 Remarks:

AAI Figure

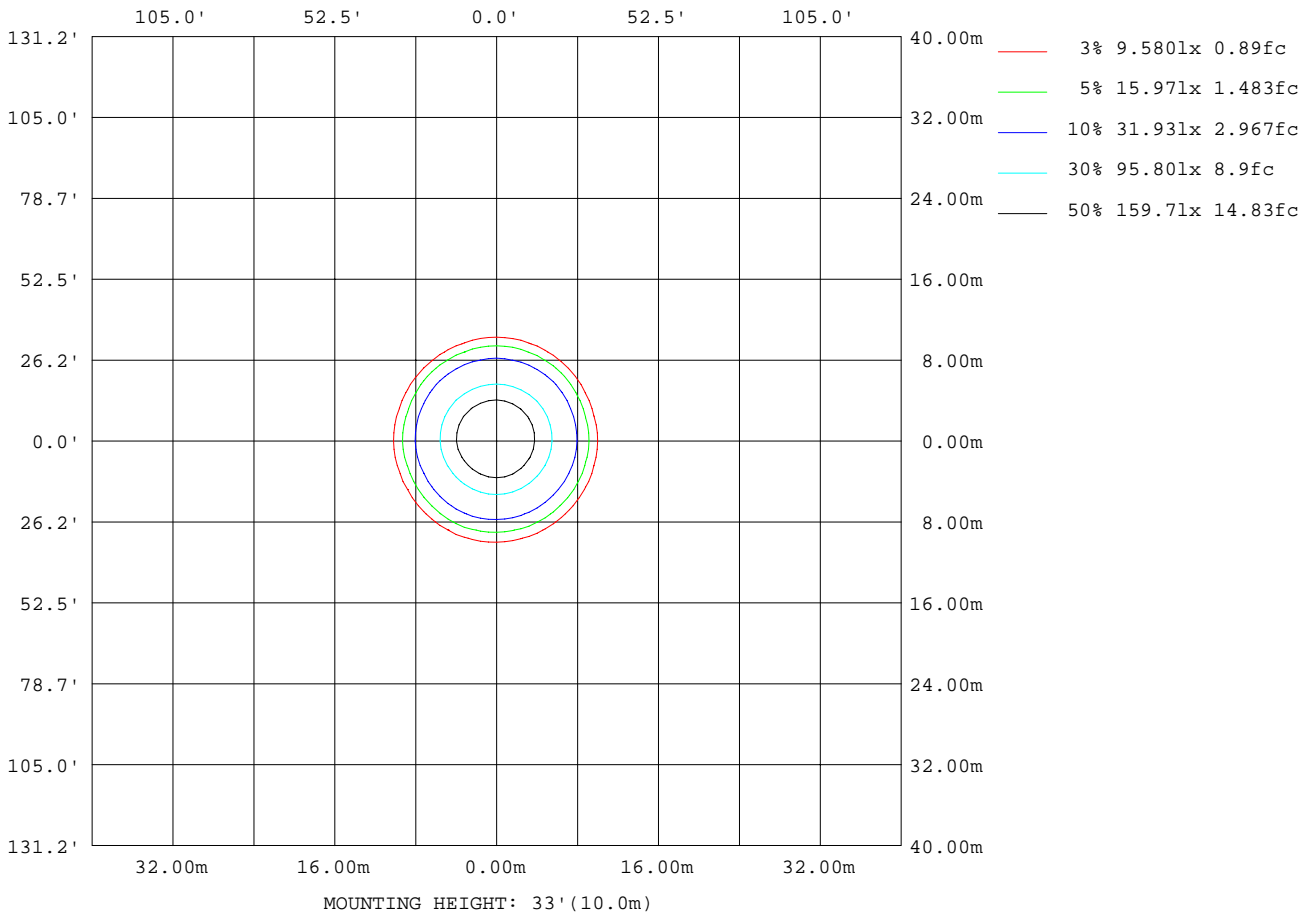


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:1
 Test Date:2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:9.850m [K=1.0000]
 Remarks:

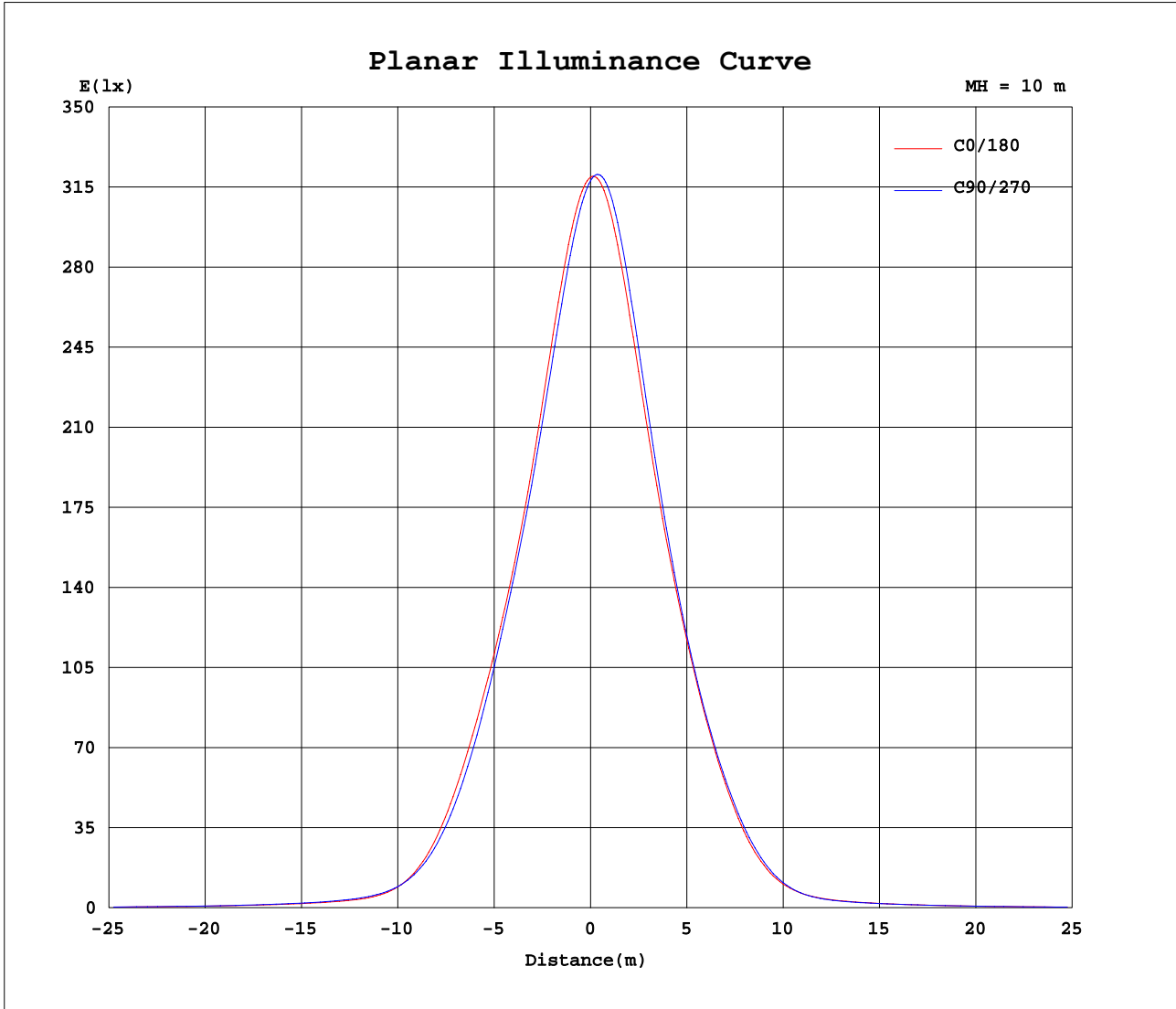
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity: 65.0%
 Test Distance: 9.850m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity: 65.0%
 Test Distance: 9.850m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: ×10cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	3193	3190	3184	3183	3178	3178	3175	3174	3193	3190	3184	3183	3178	3178	3175	3174			
5	3038	3004	2973	2965	2960	2982	3007	3052	3127	3161	3192	3202	3192	3156	3112	3058			
10	2722	2674	2635	2628	2620	2645	2680	2747	2859	2918	2974	2984	2971	2913	2845	2761			
15	2338	2297	2262	2263	2254	2271	2297	2371	2490	2552	2602	2610	2599	2536	2468	2386			
20	1976	1944	1911	1917	1912	1919	1941	2012	2107	2152	2186	2180	2183	2131	2089	2025			
25	1652	1622	1581	1580	1582	1590	1610	1674	1747	1780	1802	1779	1782	1750	1741	1698			
30	1323	1280	1228	1218	1220	1240	1257	1309	1382	1410	1434	1400	1404	1381	1394	1357			
35	941	890	841	838	839	866	878	909	988	1007	1042	1024	1022	1003	1012	963			
40	542	512	487	490	494	519	518	532	588	594	630	630	631	615	603	553			
45	259	257	253	261	264	275	271	276	294	292	305	304	311	301	285	260			
50	146	151	156	161	164	167	166	164	162	159	156	153	156	154	151	148			
55	115	118	123	127	128	130	130	126	120	117	115	115	115	117	118	118			
60	96.3	98.7	102	105	106	107	106	104	97.7	95.2	94.9	95.3	96.1	97.1	98.7	99.5			
65	77.3	79.6	81.9	84.0	85.2	85.4	84.8	82.9	77.5	75.5	75.2	75.3	76.4	77.1	78.5	79.4			
70	59.4	61.7	62.8	64.1	65.2	65.3	64.6	63.4	59.3	58.0	57.2	56.8	57.5	58.1	59.4	60.1			
75	45.0	46.8	47.5	47.7	48.4	48.4	48.2	47.3	44.7	43.7	43.2	42.3	42.5	42.8	44.3	44.9			
80	30.9	32.4	33.5	33.8	33.2	33.5	33.4	33.2	31.0	30.3	30.8	29.9	29.9	29.8	31.3	31.7			
85	13.9	15.3	15.4	15.7	15.2	15.4	15.1	15.2	14.2	14.0	14.3	14.0	14.0	13.8	14.5	14.4			
90	0.40	0.43	0.53	0.54	0.56	0.47	0.45	0.40	0.35	0.36	0.32	0.34	0.32	0.37	0.41	0.47			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: 1
 Test Date: 2019-01-25

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity: 65.0%
 Test Distance: 9.850m [K=1.0000]
 Remarks: