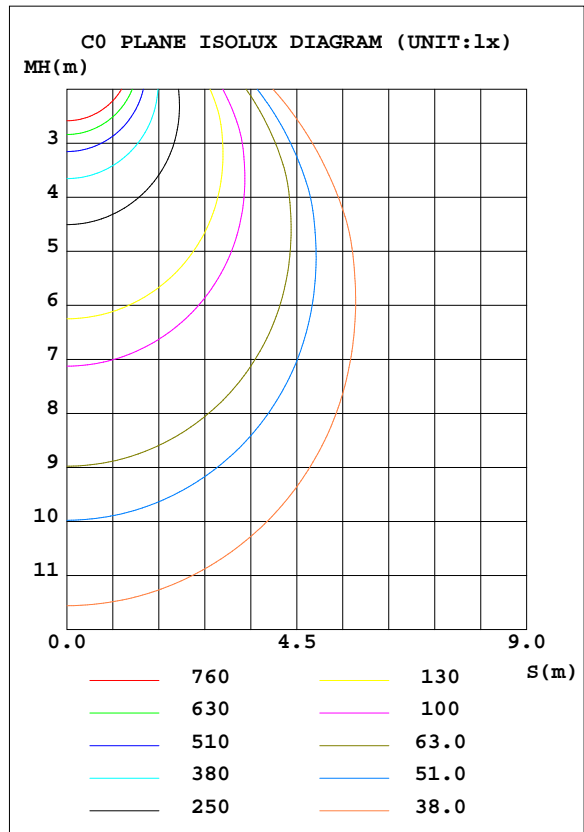
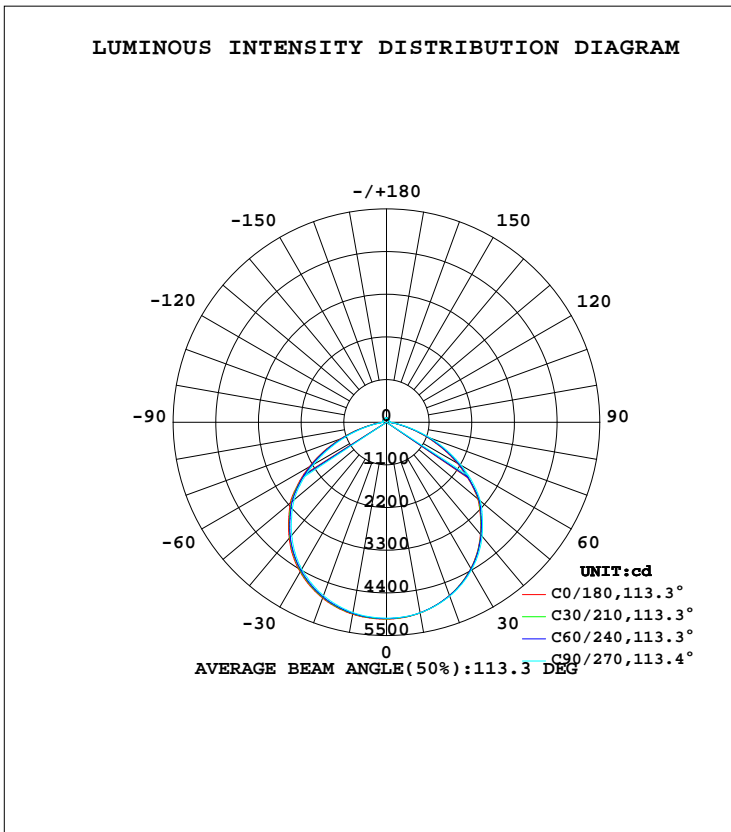


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 143.19 lm/W			
MODEL	HB350-100W	I _{max} (cd)	5077	S/MH(C0/180)	1.27
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	14863	h UP, DN(C0-180)	1.8, 47.9
NOMINAL FLUX(lm)	14862.7	CIE CLASS	DIRECT	h UP, DN(C180-360)	2.1, 48.1
LAMPS INSIDE	1	h up(%)	4.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230.0	h down(%)	96.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

gg Range: 0 - 180DEG
 gg Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

g	C0	C45	C90	C135	C180	C225	C270	C315	g	F zone	F total	%lum, lamp
10	4993	4988	4989	4986	5026	5007	4982	4963	0- 10	479.5	479.5	3.23,3.23
20	4752	4754	4769	4776	4823	4796	4755	4731	10- 20	1383	1863	12.5,12.5
30	4351	4359	4389	4399	4455	4419	4373	4337	20- 30	2119	3981	26.8,26.8
40	3769	3787	3836	3852	3904	3867	3803	3765	30- 40	2579	6561	44.1,44.1
50	3073	3110	3161	3191	3240	3186	3107	3077	40- 50	2691	9251	62.2,62.2
60	2105	2145	2224	2252	2301	2255	2166	2123	50- 60	2398	11649	78.4,78.4
70	1103	1142	1212	1242	1271	1218	1148	1110	60- 70	1667	13316	89.6,89.6
80	308.9	327.5	362.8	384.5	400.9	380.9	341.8	320.0	70- 80	770.3	14086	94.8,94.8
90	85.38	82.68	79.70	79.62	88.04	88.15	88.45	89.15	80- 90	186.9	14273	96,96
100	88.54	89.26	90.90	90.55	101.8	101.9	100.7	99.94	90-100	106.2	14379	96.7,96.7
110	77.59	77.38	78.31	78.02	91.84	91.95	92.68	92.12	100-110	94.59	14474	97.4,97.4
120	76.31	76.29	76.61	75.49	90.75	91.90	94.80	93.19	110-120	83.50	14557	97.9,97.9
130	89.66	89.80	88.67	90.38	109.1	106.2	103.5	104.6	120-130	83.06	14640	98.5,98.5
140	85.40	86.48	87.87	87.14	102.2	102.3	102.8	101.8	130-140	74.24	14715	99,99
150	91.97	92.00	91.74	90.56	104.8	105.2	105.5	104.9	140-150	60.10	14775	99.4,99.4
160	100.9	100.0	99.44	98.82	109.7	110.0	110.0	109.5	150-160	46.92	14822	99.7,99.7
170	108.4	108.1	107.5	106.6	112.5	112.7	112.3	112.1	160-170	30.38	14852	99.9,99.9
180	113.1	113.1	112.7	112.1	113.2	113.0	112.5	112.1	170-180	10.62	14863	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

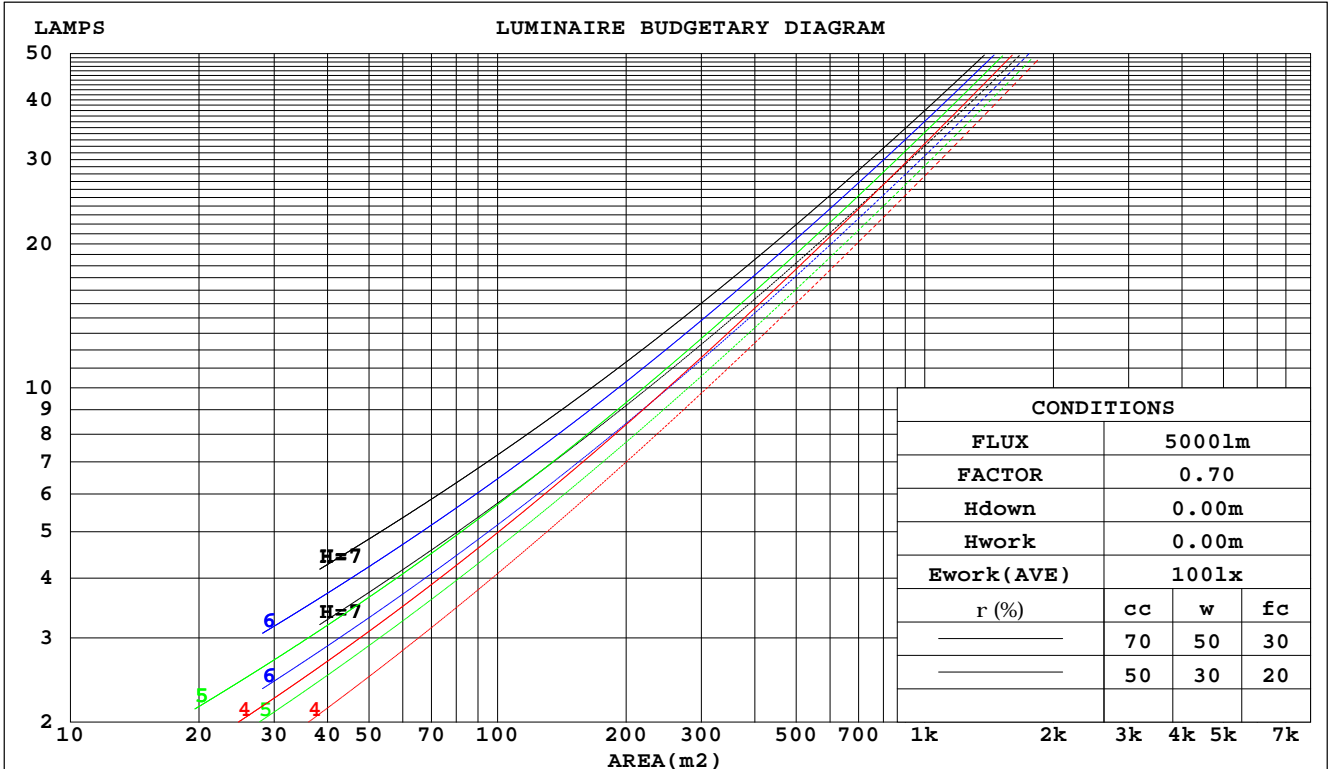
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.03	1.03	1.03	.98	.98	.98	.96
1.0	1.04	.90	.96	1.01	.97	.94	.96	.93	.90	.92	.89	.87	.87	.85	.84	.81
2.0	.91	.84	.79	.89	.83	.77	.84	.79	.75	.81	.76	.73	.77	.74	.71	.68
3.0	.80	.72	.66	.78	.71	.65	.74	.68	.63	.71	.66	.61	.68	.64	.60	.58
4.0	.71	.62	.56	.69	.61	.55	.66	.59	.54	.63	.57	.53	.61	.56	.52	.49
5.0	.63	.54	.48	.62	.54	.47	.59	.52	.46	.57	.51	.46	.55	.49	.45	.43
6.0	.57	.48	.42	.56	.47	.41	.53	.46	.41	.51	.45	.40	.50	.44	.39	.37
7.0	.51	.43	.37	.50	.42	.36	.49	.41	.36	.47	.40	.35	.45	.39	.35	.33
8.0	.47	.39	.33	.46	.38	.33	.44	.37	.32	.43	.36	.32	.41	.36	.31	.29
9.0	.43	.35	.29	.42	.35	.29	.41	.34	.29	.39	.33	.28	.38	.32	.28	.26
10.0	.40	.32	.27	.39	.31	.26	.38	.31	.26	.37	.30	.26	.35	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.293	.167	.053	.285	.163	.052	.270	.155	.049	.256	.147	.047	.242	.141	.045	
2.0	.280	.153	.047	.272	.150	.046	.259	.144	.045	.246	.138	.043	.234	.133	.042	
3.0	.261	.139	.042	.254	.136	.041	.242	.131	.040	.231	.127	.039	.220	.122	.038	
4.0	.242	.126	.037	.236	.124	.037	.226	.120	.036	.215	.116	.035	.206	.112	.034	
5.0	.225	.115	.033	.220	.113	.033	.210	.109	.032	.201	.106	.032	.192	.103	.031	
6.0	.209	.105	.030	.205	.103	.030	.196	.100	.029	.188	.098	.029	.180	.095	.028	
7.0	.195	.097	.027	.191	.095	.027	.183	.093	.027	.176	.090	.026	.169	.088	.026	
8.0	.183	.089	.025	.179	.088	.025	.172	.086	.025	.165	.084	.024	.159	.082	.024	
9.0	.172	.083	.023	.168	.082	.023	.162	.080	.023	.156	.078	.022	.150	.076	.022	
10.0	.161	.077	.021	.158	.077	.021	.152	.075	.021	.147	.073	.021	.142	.071	.020	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.221	.221	.221	.189	.189	.189	.129	.129	.129	.074	.074	.074	.024	.024	.024	
1.0	.210	.187	.166	.179	.160	.143	.123	.110	.099	.071	.064	.058	.023	.021	.019	
2.0	.201	.163	.130	.172	.140	.113	.118	.097	.078	.068	.056	.046	.022	.018	.015	
3.0	.194	.145	.106	.166	.125	.092	.114	.087	.065	.066	.051	.038	.021	.016	.012	
4.0	.186	.132	.090	.160	.114	.078	.110	.079	.055	.064	.046	.033	.020	.015	.011	
5.0	.179	.121	.079	.154	.105	.069	.106	.073	.049	.061	.043	.029	.020	.014	.009	
6.0	.172	.113	.071	.148	.098	.062	.102	.069	.044	.059	.040	.026	.019	.013	.009	
7.0	.165	.106	.065	.142	.092	.057	.098	.065	.040	.057	.038	.024	.018	.012	.008	
8.0	.159	.101	.060	.137	.087	.053	.095	.061	.037	.055	.036	.022	.018	.012	.007	
9.0	.153	.096	.057	.132	.083	.050	.091	.058	.035	.053	.034	.021	.017	.011	.007	
10.0	.148	.091	.054	.127	.079	.047	.088	.056	.034	.051	.033	.020	.017	.011	.007	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

gg Range: 0 - 180DEG
 gg Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm										
NAME: HB350-100W					TYPE:			WEIGHT:		
DIM.:					SPEC.:			SERIAL No.:		
MFR.:					SUR.:			PROTECTION ANGLE:		

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	25.9	27.3	26.2	27.6	27.9	26.0	27.4	26.3	27.7	28.0
3H	27.0	28.3	27.3	28.6	28.9	27.2	28.5	27.6	28.8	29.1
4H	27.3	28.6	27.7	28.9	29.2	27.6	28.8	27.9	29.1	29.5
6H	27.4	28.6	27.8	28.9	29.3	27.7	28.9	28.1	29.2	29.6
8H	27.4	28.6	27.8	28.9	29.3	27.8	28.9	28.1	29.2	29.6
12H	27.4	28.5	27.8	28.9	29.3	27.8	28.8	28.2	29.2	29.6
4H 2H	26.4	27.6	26.8	28.0	28.3	26.5	27.7	26.8	28.1	28.4
3H	27.6	28.7	28.0	29.1	29.5	27.8	28.9	28.2	29.3	29.6
4H	28.0	29.0	28.5	29.4	29.8	28.3	29.2	28.7	29.6	30.1
6H	28.2	29.1	28.7	29.5	30.0	28.5	29.4	28.9	29.8	30.2
8H	28.3	29.1	28.7	29.5	30.0	28.5	29.4	29.0	29.8	30.3
12H	28.3	29.0	28.8	29.5	30.0	28.6	29.3	29.1	29.8	30.3
8H 4H	28.1	29.0	28.6	29.4	29.9	28.3	29.2	28.8	29.6	30.1
6H	28.4	29.1	28.9	29.6	30.1	28.7	29.3	29.2	29.8	30.3
8H	28.5	29.1	29.0	29.6	30.1	28.8	29.4	29.3	29.9	30.4
12H	28.6	29.1	29.1	29.6	30.1	28.8	29.4	29.4	29.9	30.4
12H 4H	28.1	28.9	28.6	29.3	29.8	28.3	29.1	28.8	29.5	30.0
6H	28.4	29.0	28.9	29.5	30.0	28.7	29.3	29.2	29.7	30.3
8H	28.5	29.0	29.1	29.5	30.1	28.8	29.3	29.3	29.8	30.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.3 / - 0.5					+ 0.2 / - 0.4				
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				

CIE Pub.117 Corrected 14863 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.4)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

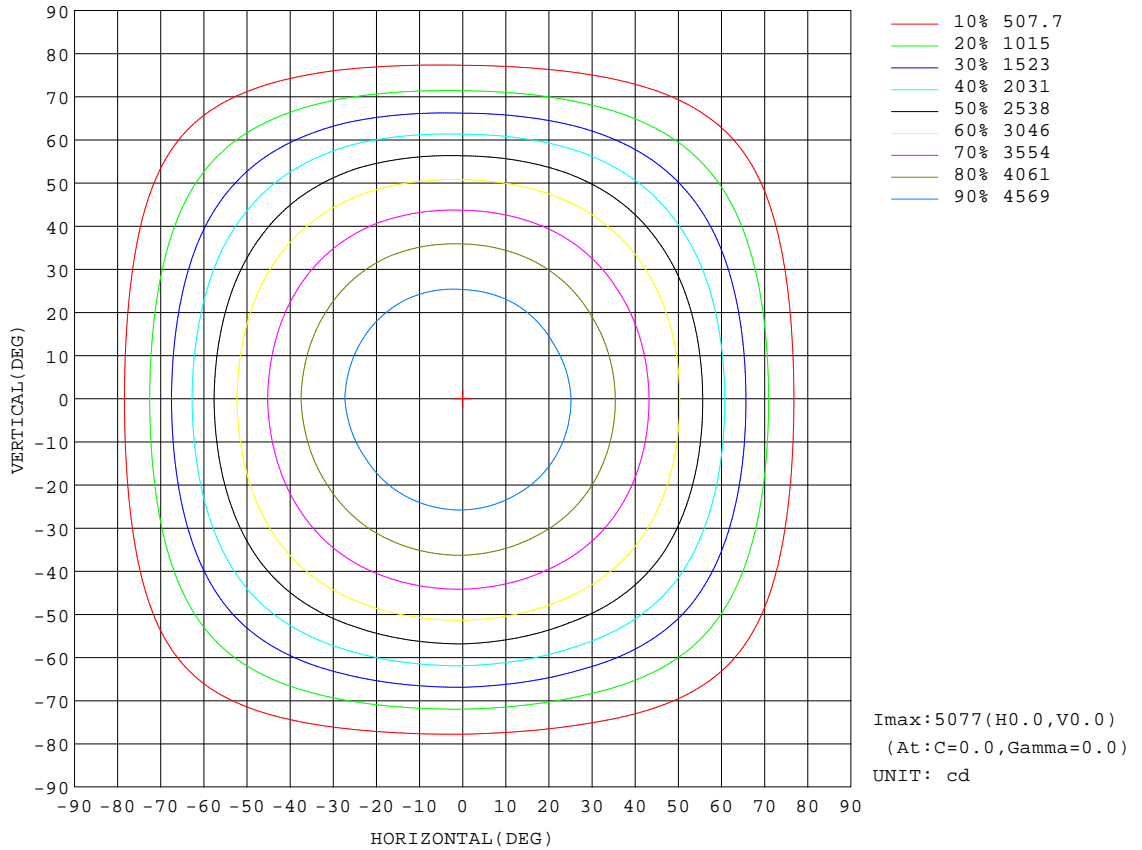
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	57	74	64	57	72	65	56	49
1.25	83	72	65	81	72	65	78	70	64	56
1.50	88	78	71	86	77	71	83	75	69	61
2.00	95	86	80	93	85	79	89	82	77	69
2.50	98	91	85	96	89	84	92	86	82	73
3.00	102	95	90	99	93	88	95	90	86	76
4.00	106	100	96	103	98	94	98	94	91	81
5.00	108	103	99	105	101	97	100	97	94	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHR NOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



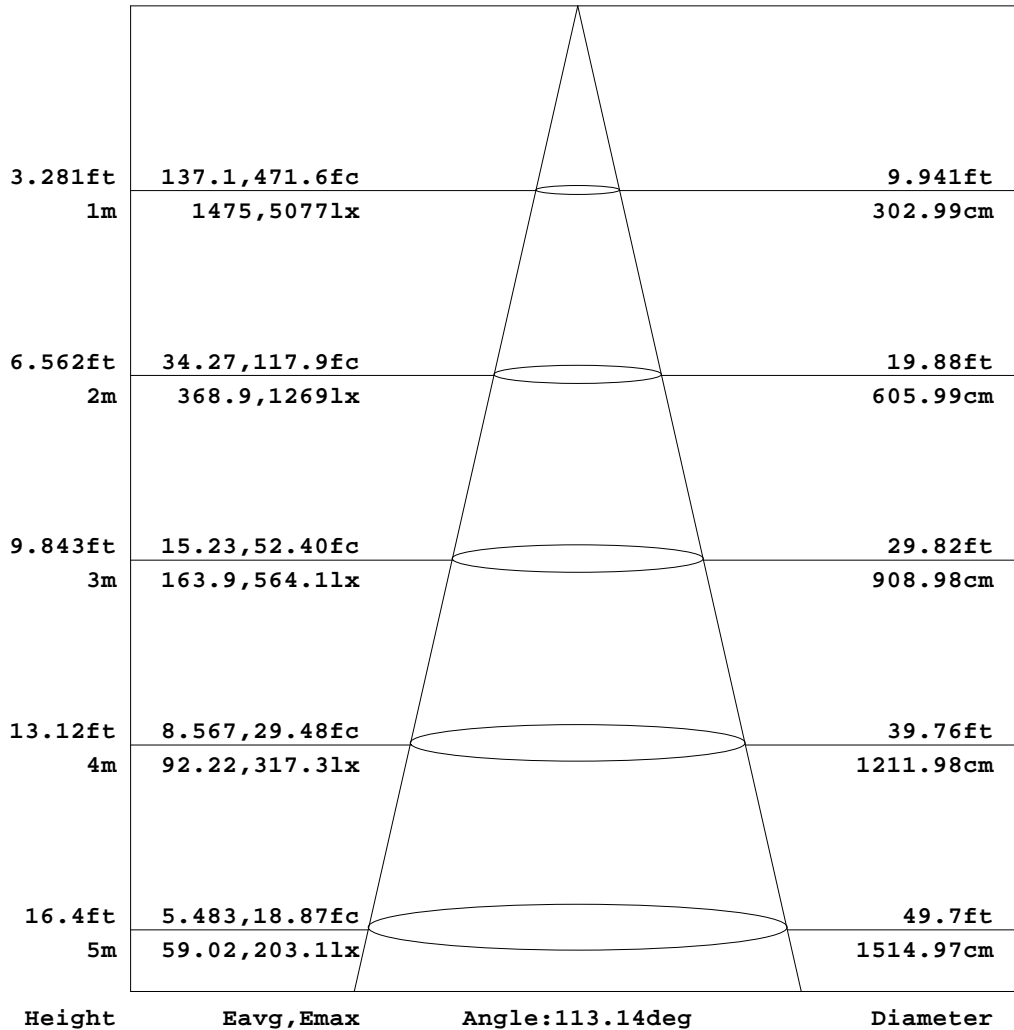
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.250m [K=1.0000]
 Remarks:

AAI Figure

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Flux out:10991 lm



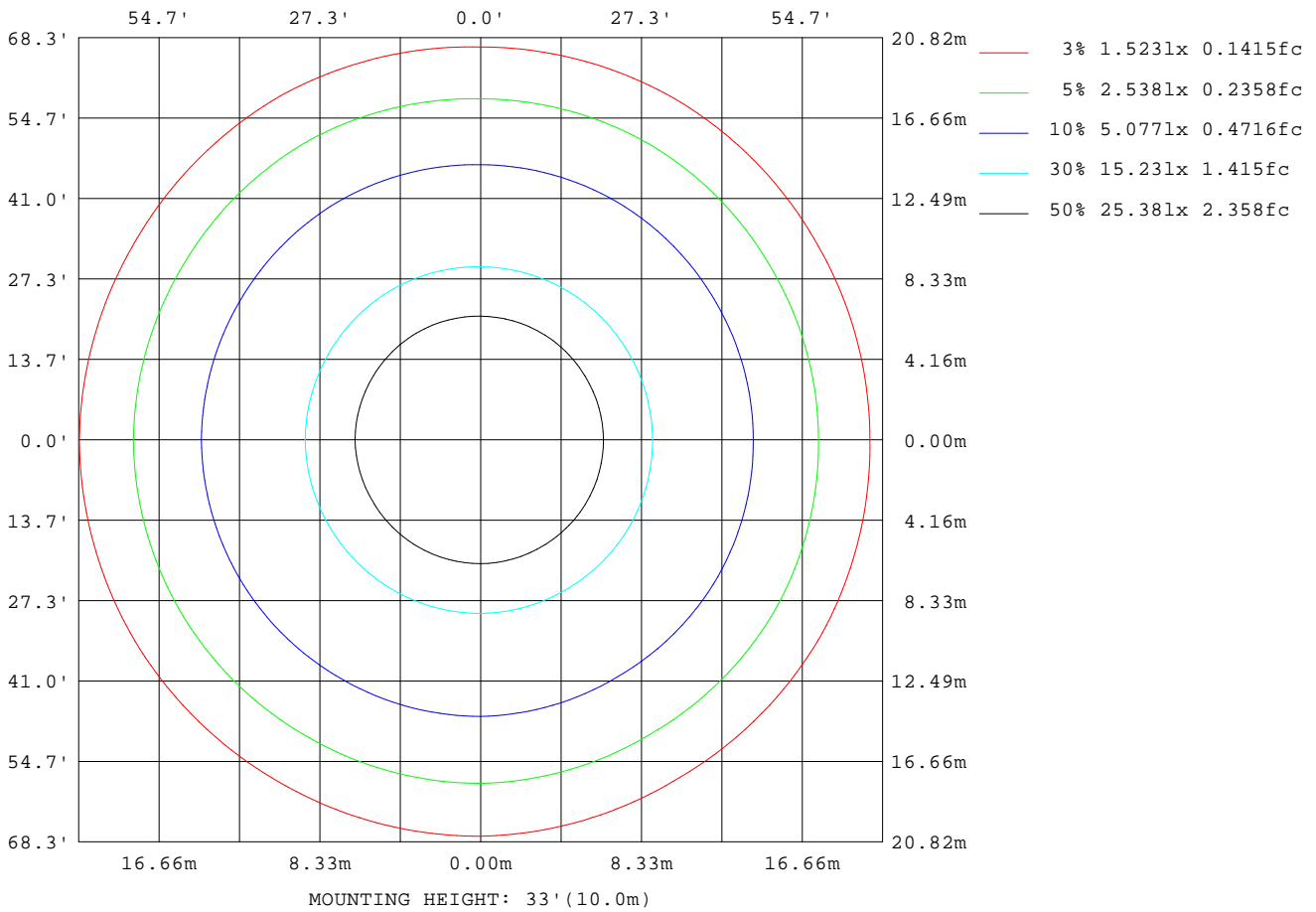
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

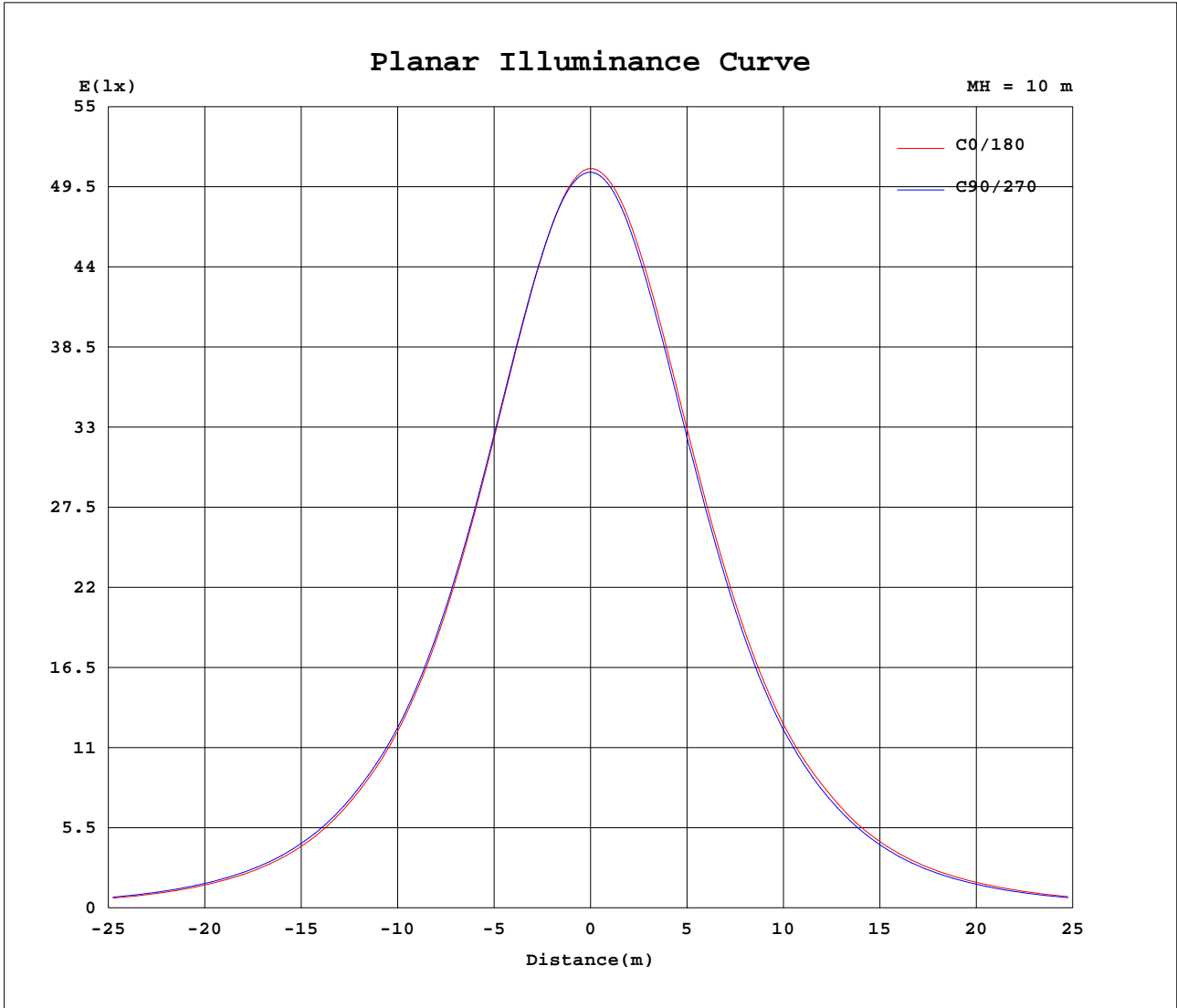
Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

ggg Range: 0 - 180DEG
 ggg Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2015-06-13

Range: 0 - 180DEG
 Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.250m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.0V I:0.4750A P:103.8W PF:0.9500 Lamp Flux:14862.7x1 lm		
NAME: HB350-100W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	5077	5067	5058	5052	5044	5036	5077	5067	5058	5052	5044	5036							
5	5054	5048	5041	5038	5031	5024	5065	5055	5046	5034	5025	5014							
10	4993	4989	4987	4989	4988	4984	5026	5012	5001	4982	4969	4957							
15	4892	4889	4889	4897	4899	4901	4944	4930	4914	4885	4871	4857							
20	4752	4753	4754	4769	4774	4777	4823	4804	4788	4755	4740	4722							
25	4573	4577	4582	4601	4608	4616	4660	4638	4620	4579	4567	4546							
30	4351	4356	4363	4389	4394	4404	4455	4430	4409	4373	4350	4325							
35	4084	4092	4100	4139	4141	4153	4204	4173	4158	4110	4088	4061							
40	3769	3782	3792	3836	3843	3860	3904	3874	3861	3803	3781	3749							
45	3427	3438	3454	3497	3514	3529	3569	3541	3518	3459	3439	3409							
50	3073	3103	3118	3161	3178	3204	3240	3198	3175	3107	3089	3065							
55	2600	2638	2631	2713	2716	2757	2789	2753	2736	2667	2643	2593							
60	2105	2147	2144	2224	2227	2277	2301	2254	2255	2166	2153	2094							
65	1591	1639	1636	1716	1726	1777	1796	1744	1734	1647	1638	1593							
70	1103	1139	1145	1212	1225	1259	1271	1221	1216	1148	1124	1095							
75	644	673	682	739	767	786	797	764	740	688	670	645							
80	309	326	329	363	377	392	401	387	375	342	328	312							
85	124	128	133	152	161	168	175	166	159	141	133	129							
90	85.4	83.6	81.7	79.7	79.7	79.6	88.0	88.1	88.2	88.4	88.3	90.0							
95	96.5	96.6	96.7	96.4	95.9	96.1	106	107	107	106	106	105							
100	88.5	89.1	89.4	90.9	90.7	90.4	102	102	102	101	100	99.4							
105	81.8	82.1	82.1	83.3	83.6	83.1	95.7	95.3	96.0	95.9	95.7	94.7							
110	77.6	77.1	77.7	78.3	78.4	77.7	91.8	91.5	92.4	92.7	92.3	91.9							
115	76.6	76.6	76.6	76.8	77.0	76.6	92.0	92.1	91.7	92.3	92.2	91.9							
120	76.3	76.1	76.5	76.6	76.2	74.8	90.8	91.2	92.6	94.8	93.7	92.7							
125	87.0	87.0	86.3	86.7	86.5	84.5	101	102	102	102	102	103							
130	89.7	90.1	89.5	88.7	90.2	90.6	109	107	105	103	104	105							
135	86.6	87.6	88.1	87.8	87.7	87.5	105	104	103	103	103	103							
140	85.4	85.9	87.1	87.9	87.7	86.6	102	102	103	103	103	101							
145	87.9	88.2	88.4	89.0	88.2	86.8	102	103	103	104	103	102							
150	92.0	92.1	91.9	91.7	91.0	90.1	105	105	105	105	105	105							
155	96.4	96.1	96.1	95.5	94.9	94.3	107	108	108	108	108	107							
160	101	100	99.9	99.4	99.1	98.6	110	110	110	110	110	109							
165	105	104	104	104	103	103	111	111	112	111	111	111							
170	108	108	108	108	107	106	113	113	113	112	112	112							
175	111	111	111	111	110	110	113	113	113	113	113	112							
180	113	113	113	113	112	112	113	113	113	113	112	112							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2015-06-13

g Range: 0 - 180DEG
 g Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks: