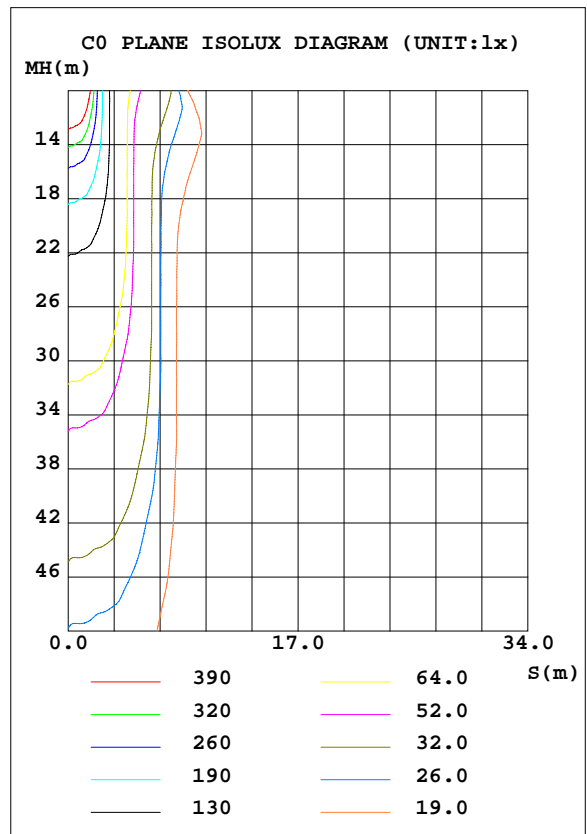
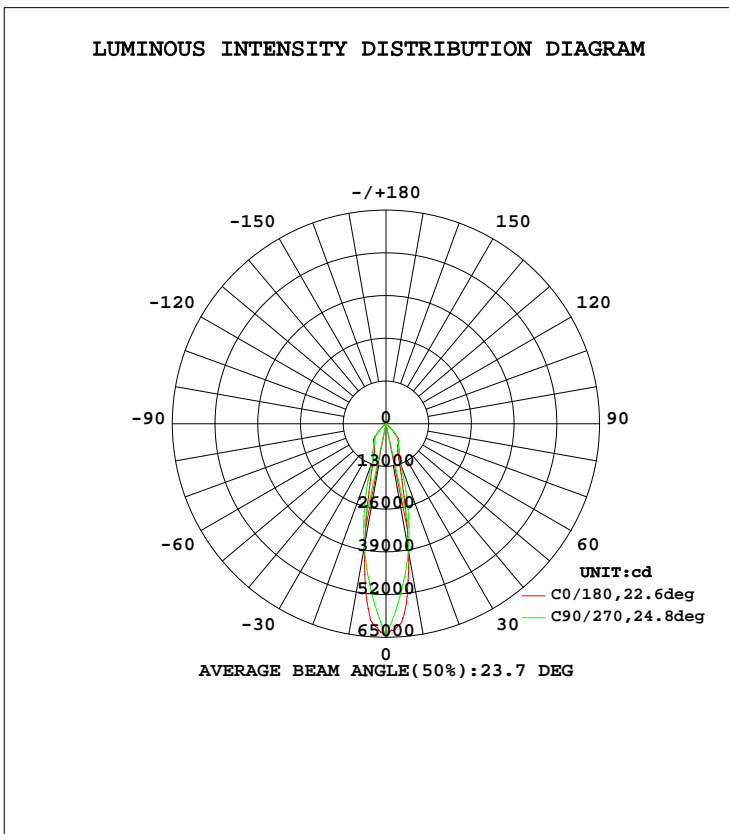


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 104.33 lm/W			
MODEL	QH-HBZSL-200W	Imax(cd)	64603	S/MH(C0/180)	0.38
NOMINAL POWER(W)	202	LOR(%)	100.0	S/MH(C90/270)	0.41
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	20959	η UP, DN(C0-180)	0.0, 49.3
NOMINAL FLUX(lm)	20959.4	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	219.6	η down(%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum
5	5815	5203	5126	5233	5938	5267	5186	5239	0- 5	1369	1369	6.53
10	3742	3478	3807	3552	3958	3631	3926	3515	5- 10	3168	4537	21.6
15	1882	1991	2480	2031	1992	2125	2559	2023	10- 15	3298	7835	37.4
20	1122	1223	1153	1254	1167	1290	1193	1250	15- 20	2646	10481	50
25	845.0	864.7	942.0	875.8	859.9	897.3	970.9	880.2	20- 25	2113	12594	60.1
30	730.5	731.9	731.0	741.3	740.1	752.3	748.3	743.4	25- 30	2040	14634	69.8
35	666.2	643.7	617.2	655.8	677.5	676.1	641.4	672.0	30- 35	2055	16689	79.6
40	526.1	506.7	503.5	520.6	537.2	542.7	534.4	548.4	35- 40	1971	18660	89
45	269.4	257.5	270.3	269.5	280.3	284.9	291.5	287.7	40- 45	1466	20126	96
50	48.19	36.37	37.05	44.72	55.66	58.06	48.51	54.88	45- 50	665.0	20791	99.2
55	4.241	4.873	19.67	5.950	3.872	10.07	25.56	10.01	50- 55	114.8	20906	99.7
60	2.441	2.160	2.290	2.221	2.276	2.337	2.610	2.425	55- 60	21.84	20928	99.8
65	1.628	1.532	1.815	1.557	1.497	1.600	1.873	1.613	60- 65	9.590	20937	99.9
70	1.116	1.169	1.339	1.127	1.017	1.080	1.137	1.053	65- 70	6.881	20944	99.9
75	0.7553	1.063	1.471	0.8728	0.6922	0.7210	1.192	0.6877	70- 75	5.324	20949	100
80	1.275	1.191	1.602	1.008	0.9937	0.6542	1.248	0.6829	75- 80	5.409	20955	100
85	0.2645	0.5139	0	0.4571	0.2993	0.2505	0	0.2810	80- 85	4.227	20959	100
90	0.0453	0	0	0	0.0388	0	0	0	85- 90	0.3225	20959	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			

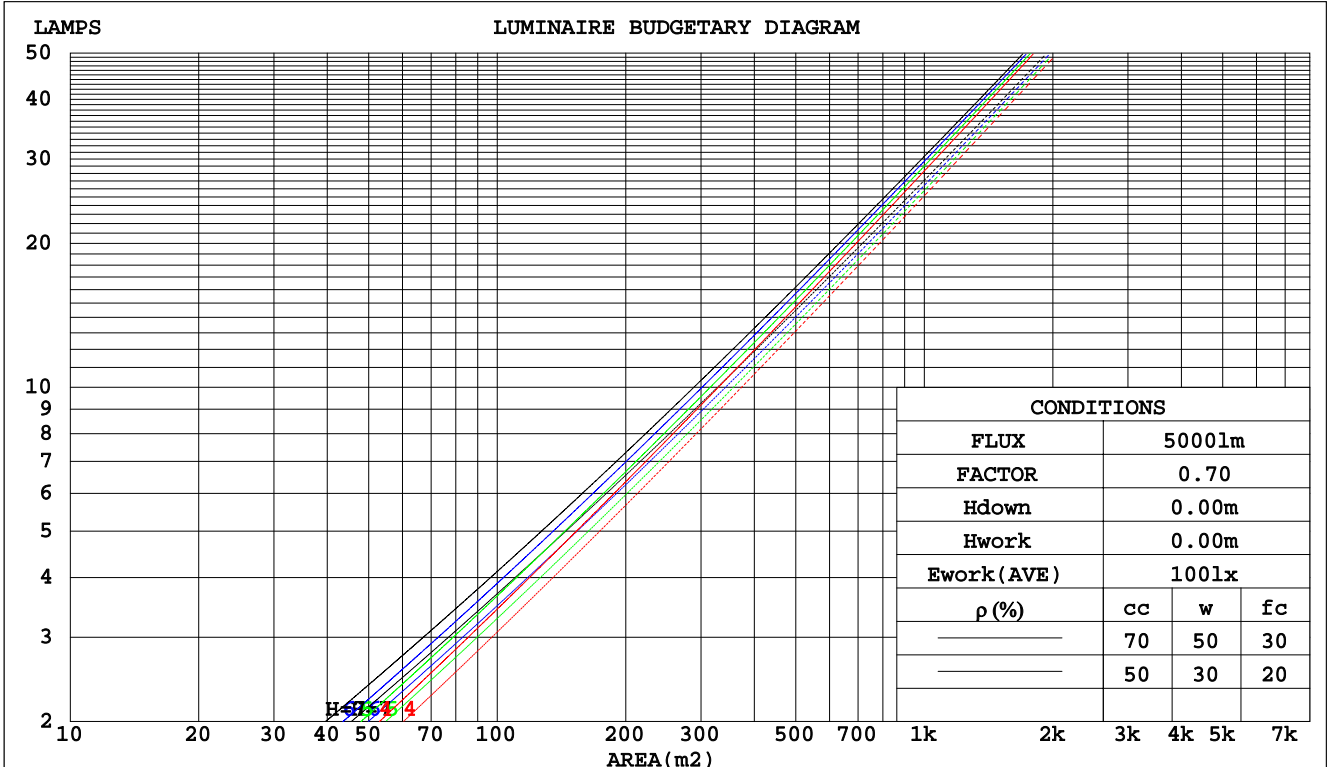
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:

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	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96	.94
2.0	1.04	1.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.92	.90	.88
3.0	.98	.93	.89	.96	.92	.88	.94	.90	.87	.91	.88	.86	.89	.87	.84	.83
4.0	.92	.87	.83	.91	.86	.82	.89	.84	.81	.87	.83	.80	.85	.82	.79	.78
5.0	.87	.81	.77	.86	.80	.77	.84	.79	.76	.82	.78	.75	.81	.77	.75	.73
6.0	.82	.76	.72	.81	.76	.72	.80	.75	.72	.78	.74	.71	.77	.73	.71	.69
7.0	.78	.72	.68	.77	.72	.68	.76	.71	.68	.74	.70	.67	.73	.70	.67	.65
8.0	.74	.68	.64	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.62
9.0	.70	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.61	.67	.63	.60	.59
10.0	.67	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.64	.60	.58	.56

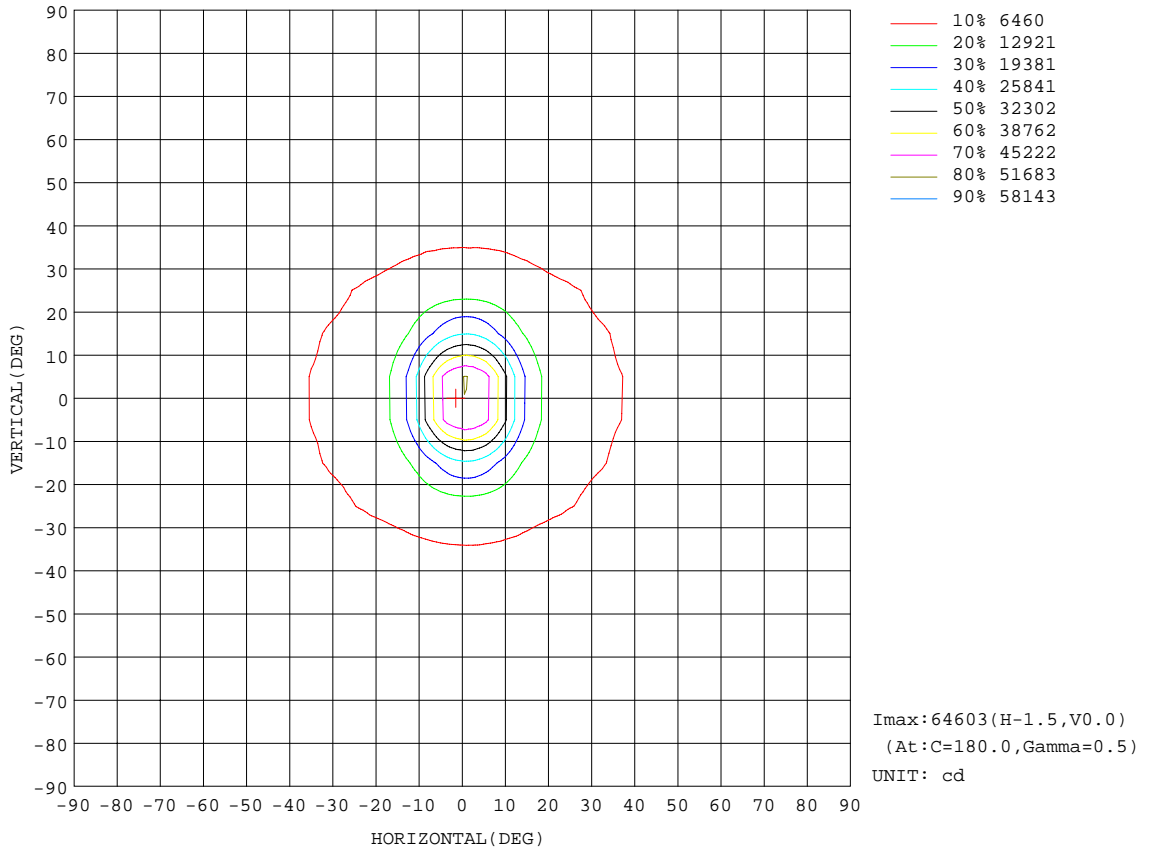


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

ISOCANDELA DIAGRAM

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:

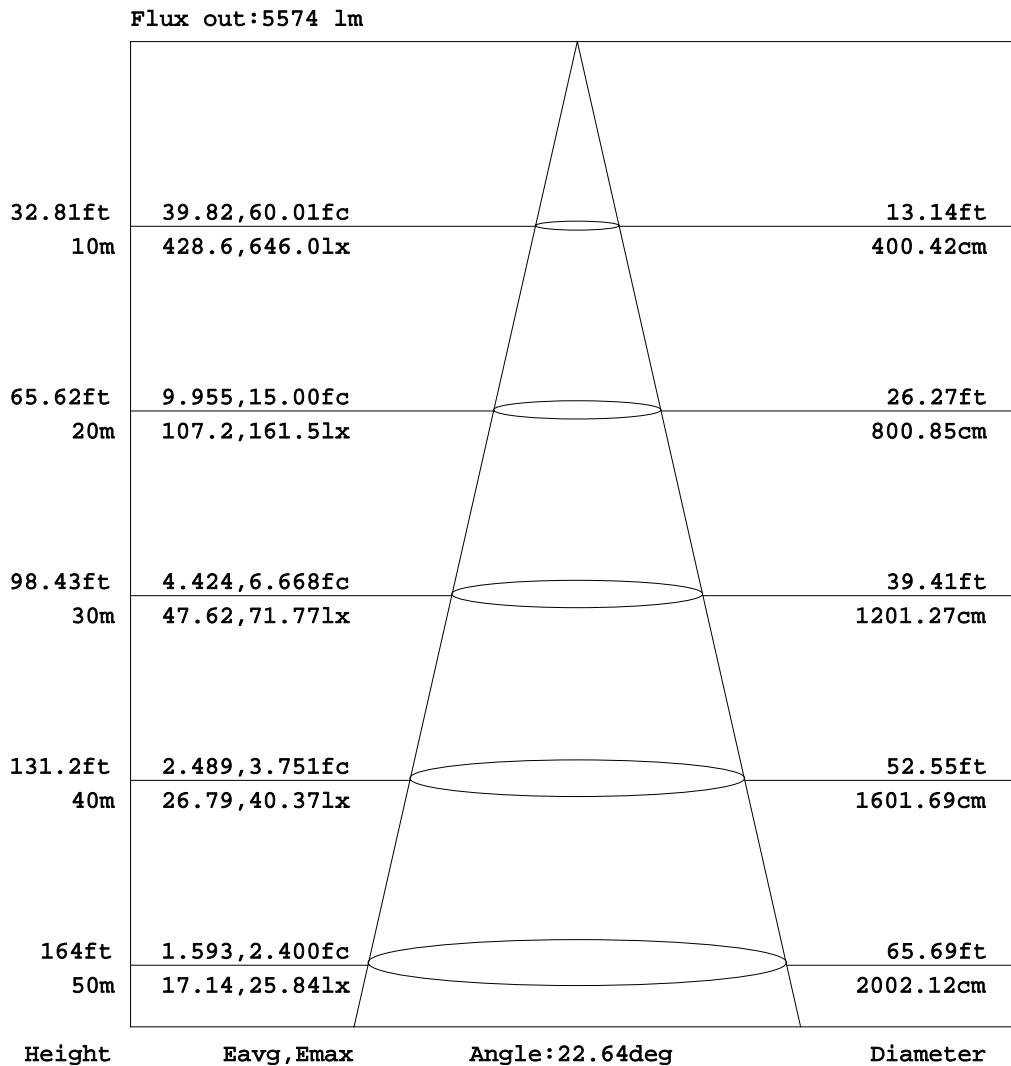


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

AAI Figure

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:



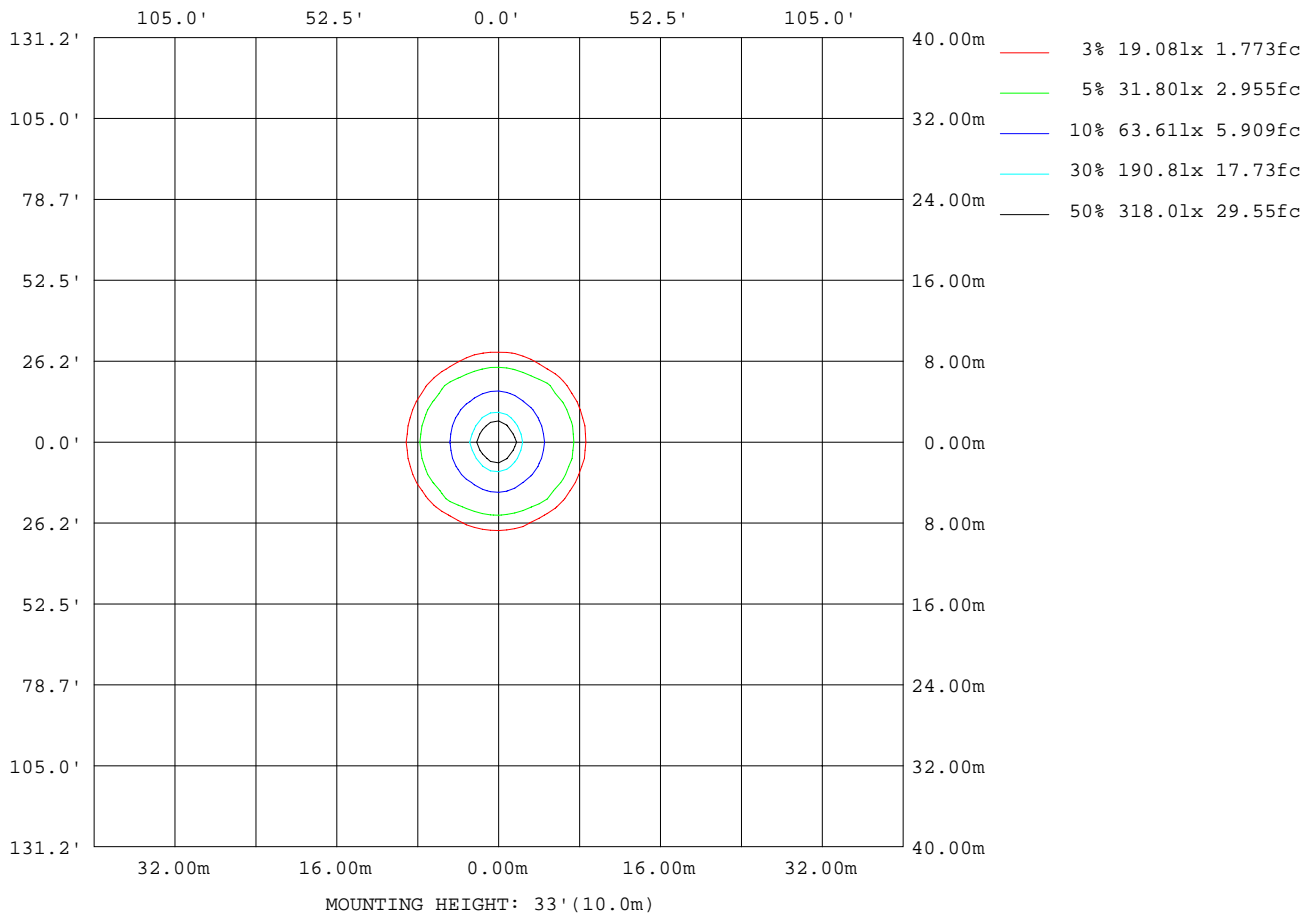
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

ISOLUX DIAGRAM

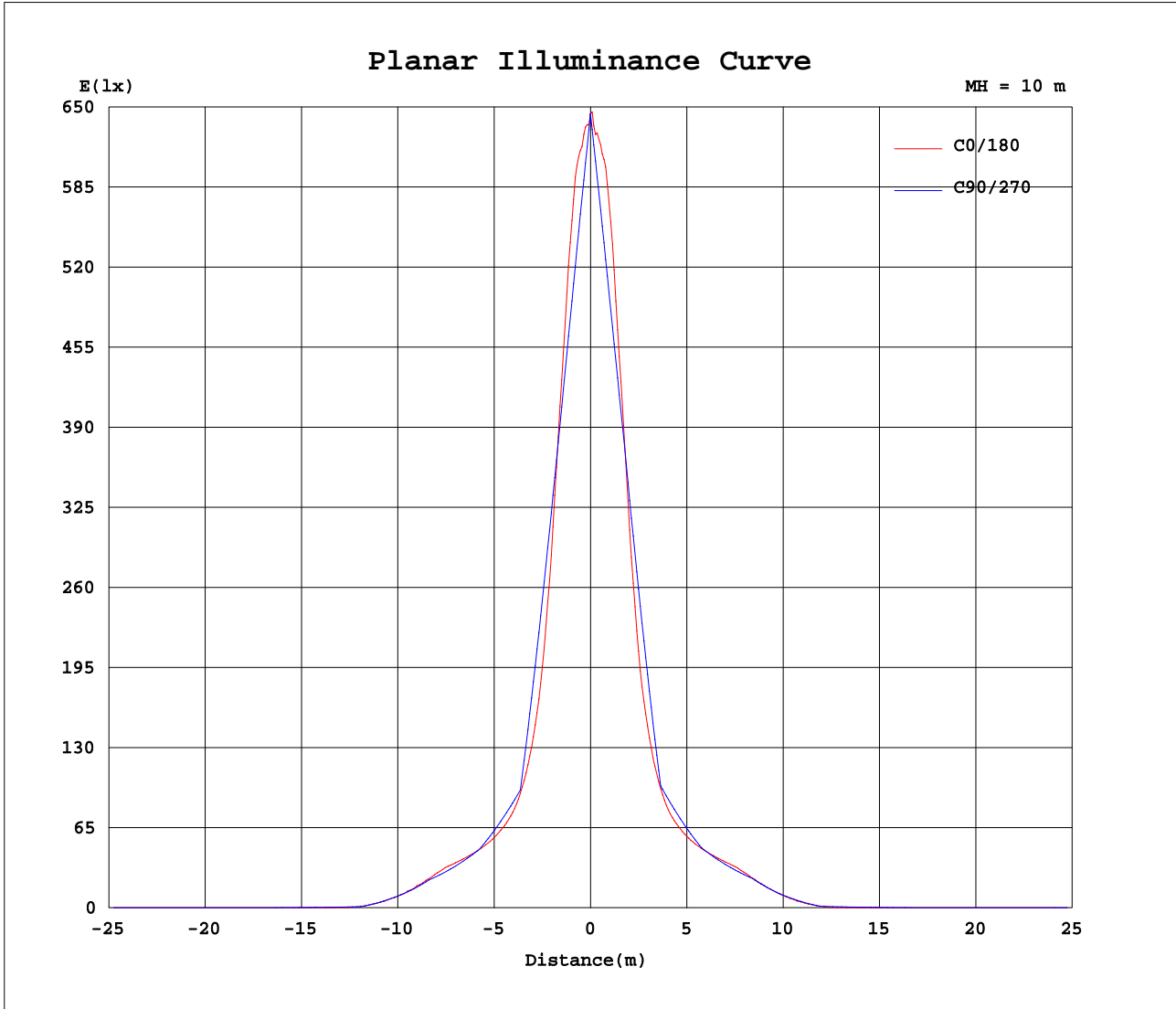
Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators:
 Test Date: 2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity: 65.0%
 Test Distance: 8.000m [K=1.0000]
 Remarks: LED: 5700K

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: x10cd

C(DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446
5	5815	5710	5618	5539	5474	5420	5355	5296	5244	5203	5161	5126	5097	5106	5110	5107	5099	5094	5126
10	3742	3622	3535	3477	3444	3431	3418	3418	3436	3478	3506	3545	3603	3639	3687	3732	3781	3810	3807
15	1882	1829	1800	1789	1792	1808	1845	1889	1933	1991	2068	2149	2218	2283	2358	2405	2447	2480	2480
20	1122	1100	1091	1090	1098	1113	1140	1171	1198	1223	1251	1276	1289	1288	1267	1233	1195	1169	1153
25	845	836	833	835	842	848	851	854	864	865	854	860	875	892	909	923	934	940	942
30	731	727	726	729	731	731	731	730	730	732	738	743	748	750	748	745	738	732	731
35	666	663	663	665	654	661	664	643	636	644	664	664	635	619	616	612	613	617	617
40	526	511	518	508	502	512	498	488	491	507	491	477	460	456	471	480	490	502	503
45	269	259	264	251	256	250	248	255	260	258	246	251	261	274	276	276	271	270	270
50	48.2	42.1	46.3	40.2	49.3	46.7	44.6	72.8	63.3	36.4	74.7	101	103	93.3	72.7	55.2	44.7	36.0	37.1
55	4.24	4.16	4.16	4.06	4.14	4.01	4.26	5.65	3.96	4.87	15.6	9.90	3.76	4.12	4.59	6.33	14.5	16.7	19.7
60	2.44	2.42	2.39	2.38	2.36	2.34	2.25	2.28	2.26	2.16	2.26	2.36	2.44	2.50	2.52	2.53	2.99	2.50	2.29
65	1.63	1.62	1.59	1.59	1.58	1.55	1.53	1.49	1.52	1.53	1.52	1.50	1.57	1.62	1.66	1.70	1.74	1.78	1.81
70	1.12	1.11	1.10	1.11	1.11	1.10	1.11	1.10	1.10	1.17	1.22	1.25	1.28	1.28	1.28	1.29	1.30	1.32	1.34
75	0.76	0.77	0.79	0.83	0.89	0.86	1.00	1.09	1.05	1.06	1.10	1.18	1.28	1.35	1.37	1.41	1.41	1.45	1.47
80	1.27	1.28	1.26	1.16	1.17	1.29	1.47	1.18	1.04	1.19	1.29	1.39	1.57	1.63	1.60	1.60	1.57	1.59	1.60
85	0.26	0.19	0.30	0.41	0.62	0.56	0.52	0.59	0.52	0.51	0.42	0.32	0.25	0.17	0.10	0.06	0.02	0.01	0.00
90	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: x10cd

C(DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446
5	5736	5651	5577	5515	5444	5379	5319	5267	5236	5212	5187	5177	5152	5144	5164	5193	5186	5144	5143
10	3739	3674	3632	3609	3587	3583	3599	3631	3663	3699	3728	3776	3820	3865	3901	3921	3926	3900	3888
15	1898	1883	1902	1925	1965	2011	2054	2125	2192	2265	2331	2394	2451	2502	2538	2556	2559	2547	2520
20	1134	1135	1145	1165	1201	1233	1258	1290	1318	1341	1351	1340	1316	1281	1238	1205	1193	1200	1223
25	849	851	858	867	873	882	892	897	887	892	908	923	937	952	962	970	971	966	955
30	736	739	742	742	745	746	746	752	761	769	774	776	773	766	758	752	748	751	755
35	675	676	672	677	679	663	663	676	684	684	660	647	641	642	644	644	641	644	641
40	534	529	522	540	529	518	524	543	528	506	497	499	507	524	530	536	534	539	534
45	277	270	279	281	283	283	294	285	282	286	300	309	308	299	297	294	291	298	303
50	51.9	54.3	66.6	63.4	61.2	88.5	73.3	58.1	101	125	121	108	83.1	67.3	55.4	48.1	48.5	54.1	60.4
55	3.90	3.98	4.09	4.02	4.40	7.21	4.44	10.1	21.9	12.0	4.18	4.63	5.29	14.0	18.6	22.4	25.6	26.5	21.5
60	2.27	2.29	2.28	2.32	2.30	2.40	2.42	2.34	2.44	2.54	2.64	2.72	2.78	3.90	3.47	2.93	2.61	3.02	3.73
65	1.49	1.49	1.50	1.50	1.51	1.51	1.57	1.60	1.58	1.54	1.57	1.63	1.68	1.73	1.80	1.85	1.87	1.86	1.83
70	1.01	1.01	1.02	1.02	1.03	1.04	1.05	1.08	1.09	1.09	1.09	1.09	1.09	1.09	1.11	1.12	1.14	1.14	1.14
75	0.68	0.69	0.73	0.70	0.78	0.77	0.73	0.72	0.75	0.82	0.90	1.01	1.07	1.12	1.14	1.18	1.19	1.20	1.18
80	1.00	0.98	0.89	0.95	0.98	0.64	0.53	0.65	0.78	0.86	0.99	1.16	1.22	1.23	1.23	1.25	1.25	1.26	1.26
85	0.26	0.25	0.32	0.21	0.13	0.24	0.22	0.25	0.24	0.19	0.15	0.12	0.08	0.04	0.02	0.00	0.00	0.00	0.02
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:219.5V I:0.9400A P:200.9W PF:0.9730 Lamp Flux:20959.4x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGTING	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: x10cd

C(DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446	6446				
5	5156	5161	5153	5144	5173	5204	5239	5278	5326	5381	5441	5489	5550	5625	5713				
10	3838	3786	3733	3669	3608	3570	3515	3466	3447	3442	3450	3459	3488	3542	3625				
15	2474	2412	2343	2255	2189	2108	2023	1954	1919	1876	1840	1811	1798	1806	1832				
20	1261	1290	1310	1310	1295	1275	1250	1218	1189	1161	1129	1109	1097	1095	1103				
25	939	924	905	889	876	868	880	875	867	860	853	844	837	834	837				
30	759	762	763	762	757	749	743	737	739	737	735	735	732	728	728				
35	639	636	641	654	676	677	672	660	661	675	672	667	671	667	665				
40	524	505	496	490	500	525	548	532	522	529	542	524	529	529	519				
45	304	311	314	298	280	285	288	295	290	283	278	278	270	279	266				
50	68.4	83.0	106	122	120	97.1	54.9	76.6	89.1	60.8	61.3	60.1	50.3	48.5	44.0				
55	14.3	5.44	4.92	4.54	12.1	21.1	10.0	4.57	7.22	4.86	4.50	4.54	4.40	4.37	4.26				
60	3.87	2.92	2.91	2.85	2.73	2.58	2.43	2.51	2.50	2.43	2.49	2.47	2.46	2.45	2.45				
65	1.81	1.78	1.74	1.68	1.60	1.62	1.61	1.58	1.55	1.58	1.58	1.60	1.61	1.62	1.63				
70	1.16	1.17	1.17	1.15	1.12	1.09	1.05	1.03	1.04	1.05	1.05	1.06	1.08	1.09	1.10				
75	1.15	1.11	1.05	0.94	0.82	0.73	0.69	0.69	0.72	0.73	0.69	0.71	0.71	0.73	0.74				
80	1.23	1.22	1.16	1.04	0.87	0.78	0.68	0.53	0.53	0.83	0.91	0.85	0.97	1.09	1.19				
85	0.04	0.08	0.12	0.16	0.19	0.24	0.28	0.26	0.29	0.22	0.21	0.35	0.30	0.27	0.26				
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.279
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks: LED: 5700K