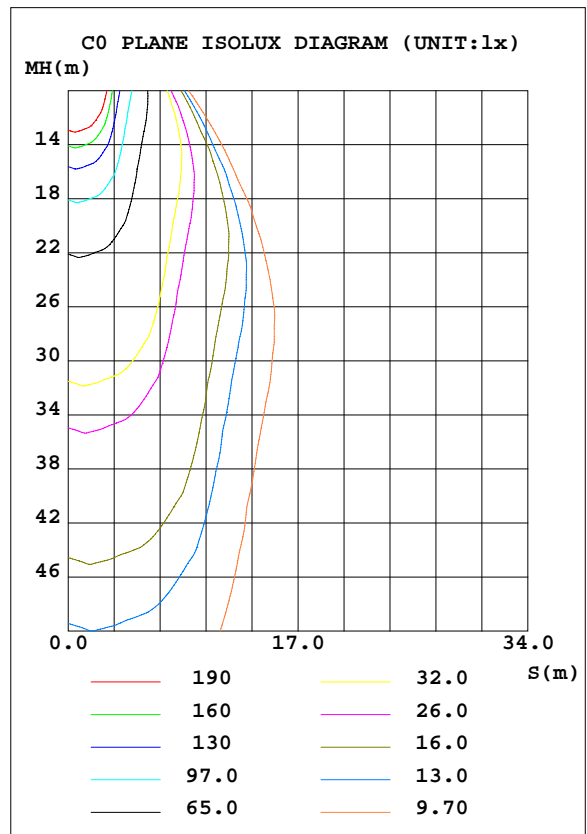
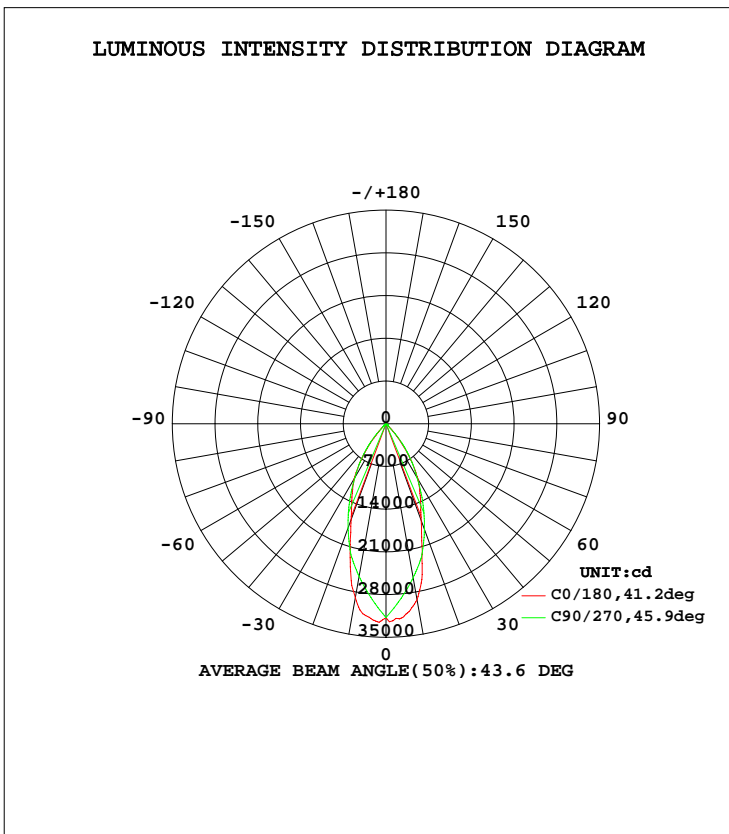


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.5V I:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.12 lm/W			
MODEL	QH-HBGK-200W	Imax(cd)	32554	S/MH(C0/180)	0.66
NOMINAL POWER(W)	202	LOR(%)	100.0	S/MH(C90/270)	0.70
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	20295	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	20295.1	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	219.5	η down(%)	100.0	CIBSE SHR MAX	0.70



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 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	3183	2975	2858	2961	3185	2964	2869	2984	0- 5	735.5	735.5	3.62
10	2898	2610	2540	2602	2930	2602	2563	2627	5- 10	2013	2749	13.5
15	2273	2114	2222	2129	2279	2132	2256	2134	10- 15	2856	5605	27.6
20	1677	1654	1819	1676	1693	1694	1843	1682	15- 20	3160	8764	43.2
25	1326	1280	1417	1307	1335	1301	1429	1302	20- 25	3149	11913	58.7
30	1046	948.2	1014	965.7	1049	973.7	1015	975.7	25- 30	2943	14856	73.2
35	686.9	633.3	698.7	647.7	678.9	647.8	698.4	657.8	30- 35	2455	17310	85.3
40	343.3	330.4	383.5	341.7	339.3	341.1	381.3	352.5	35- 40	1696	19007	93.7
45	77.12	154.4	68.22	162.0	80.97	162.5	64.19	164.4	40- 45	841.1	19848	97.8
50	10.45	49.83	49.28	52.13	11.23	52.21	46.77	54.14	45- 50	226.9	20075	98.9
55	7.878	7.668	30.34	7.032	7.606	7.598	29.35	7.191	50- 55	72.30	20147	99.3
60	11.28	6.535	11.40	6.253	11.29	6.504	11.94	6.361	55- 60	53.13	20200	99.5
65	9.106	4.042	8.201	4.281	8.999	3.926	8.413	4.222	60- 65	47.18	20248	99.8
70	1.558	1.786	4.997	1.972	1.560	1.673	4.889	1.860	65- 70	27.72	20275	99.9
75	1.576	1.258	1.794	1.233	1.599	1.052	1.364	1.109	70- 75	13.13	20288	100
80	0.5906	0.7259	0	0.6310	0.6254	0.5036	0	0.5150	75- 80	5.419	20294	100
85	0.1739	0	0	0	0.1800	0	0	0	80- 85	1.065	20295	100
90	0.0420	0	0	0	0.0393	0	0	0	85- 90	0.1015	20295	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			

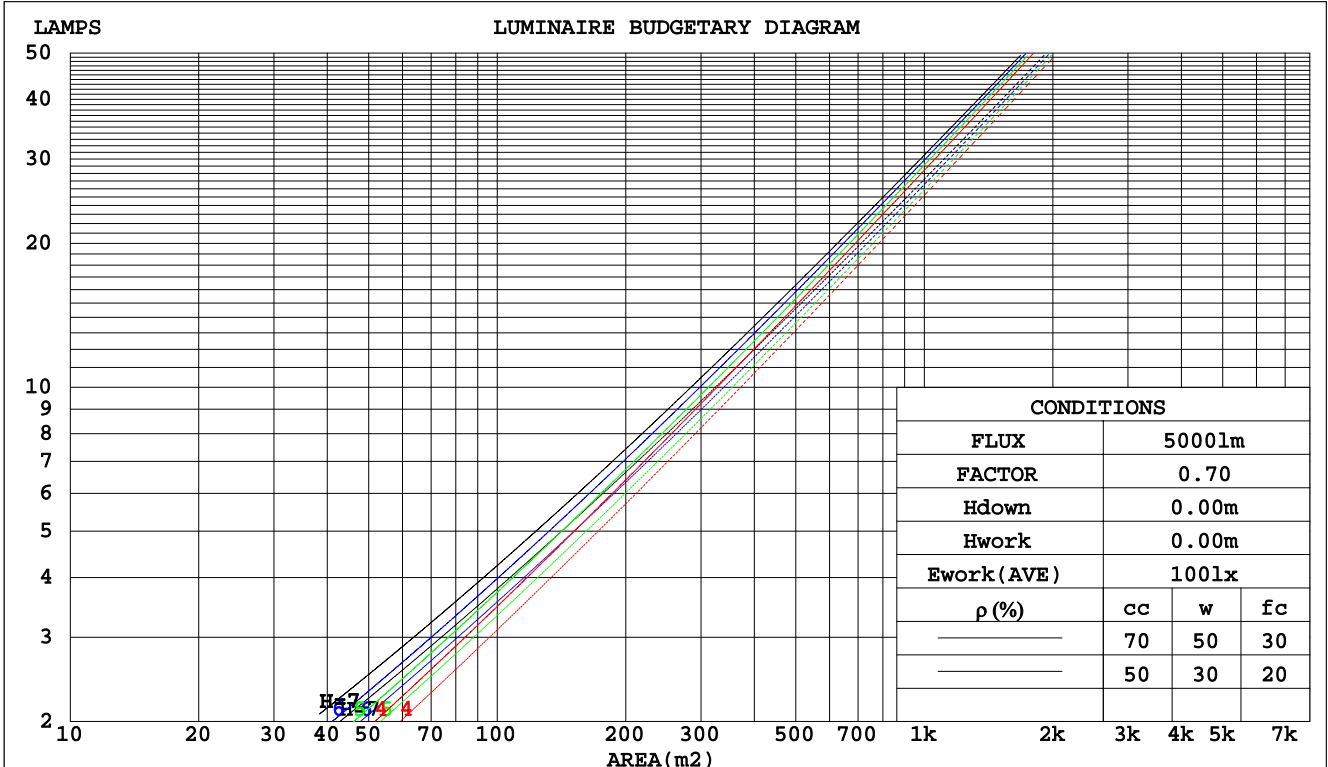
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

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:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	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	1.00
1.0	1.11	1.09	1.06	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.00	.99	.98	.97	.96	.94
2.0	1.04	.00	.96	1.02	.98	.95	.99	.96	.93	.96	.93	.91	.93	.91	.89	.88
3.0	.97	.92	.88	.96	.91	.88	.93	.89	.86	.91	.87	.85	.88	.86	.84	.82
4.0	.91	.86	.81	.90	.85	.81	.88	.83	.80	.86	.82	.79	.84	.81	.78	.77
5.0	.85	.80	.76	.84	.79	.75	.83	.78	.75	.81	.77	.74	.80	.76	.73	.72
6.0	.80	.75	.71	.80	.74	.70	.78	.73	.70	.77	.73	.69	.75	.72	.69	.68
7.0	.76	.70	.66	.75	.70	.66	.74	.69	.66	.73	.68	.65	.72	.68	.65	.63
8.0	.72	.66	.62	.71	.66	.62	.70	.65	.62	.69	.65	.61	.68	.64	.61	.60
9.0	.68	.62	.58	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.57
10.0	.65	.59	.55	.64	.59	.55	.63	.58	.55	.63	.58	.55	.62	.58	.55	.53

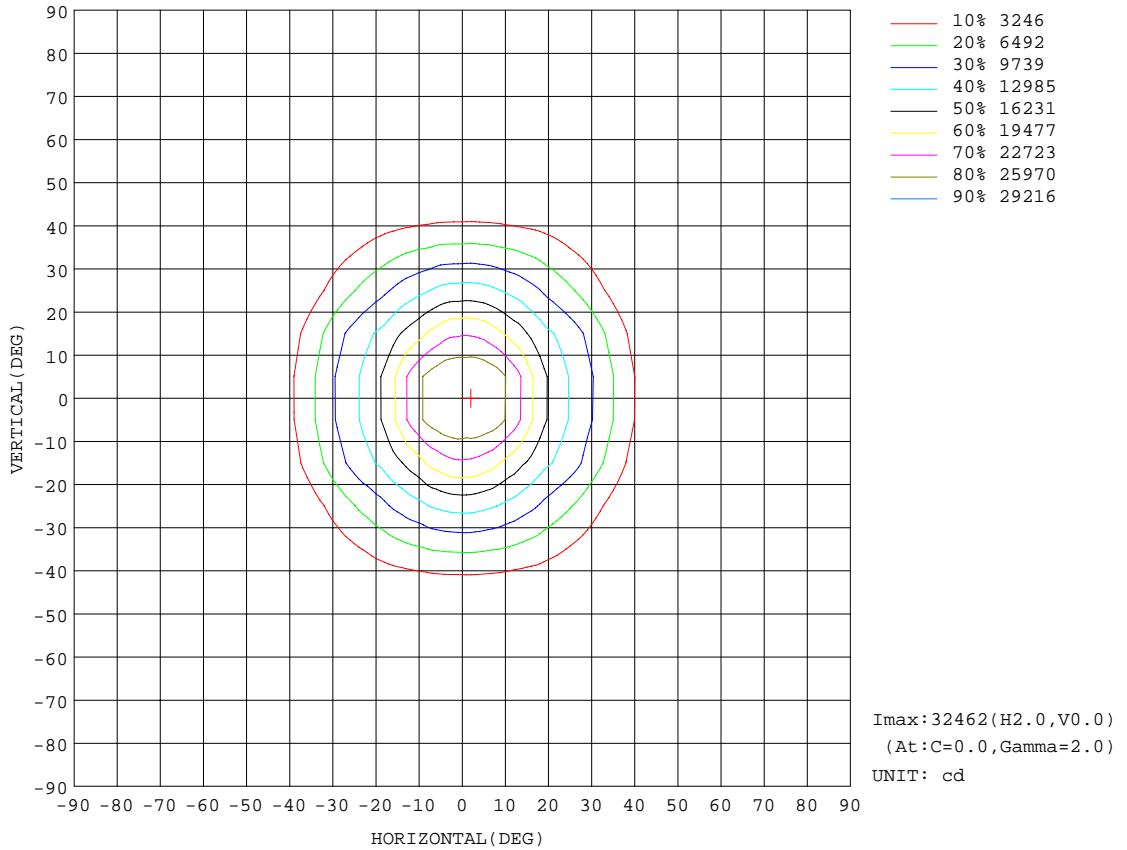


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

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:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

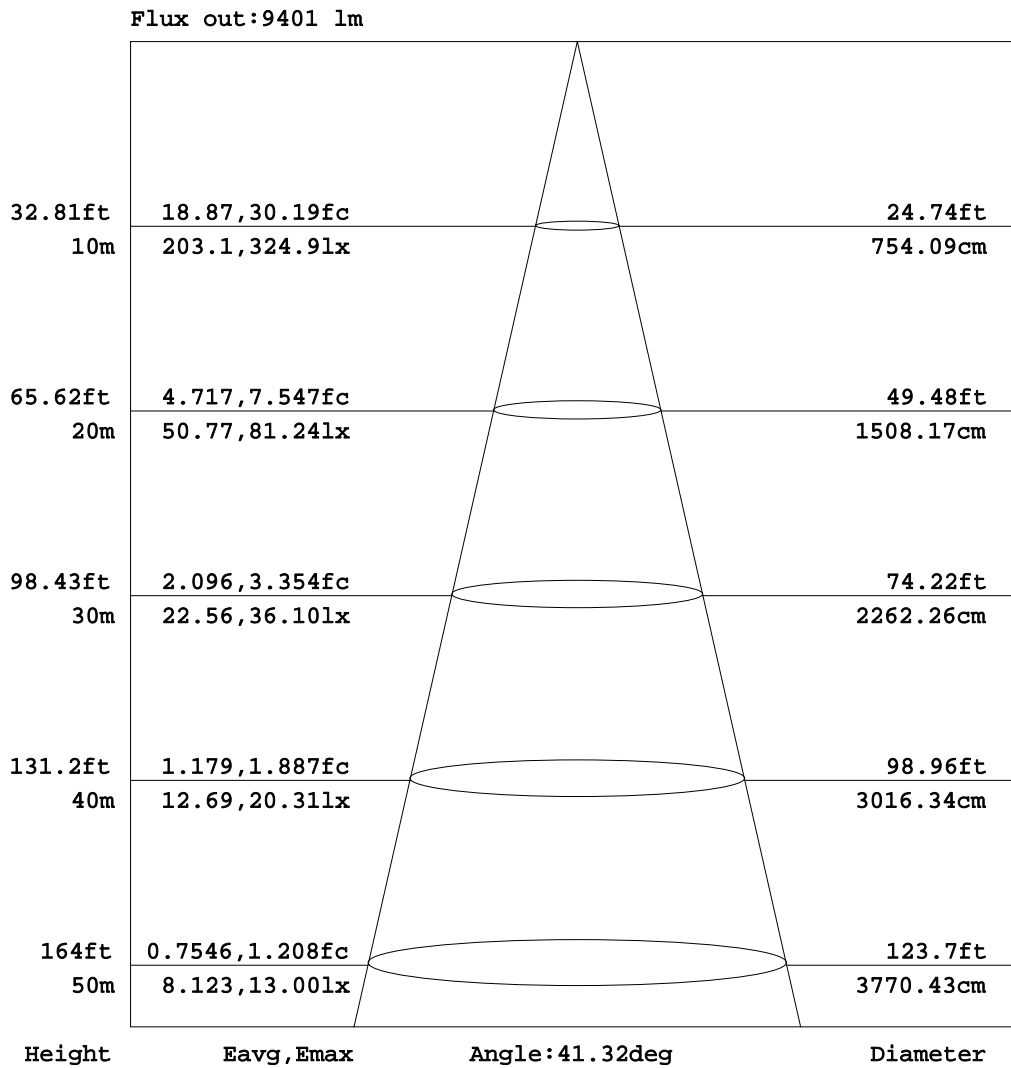


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2014-03-01

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:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:



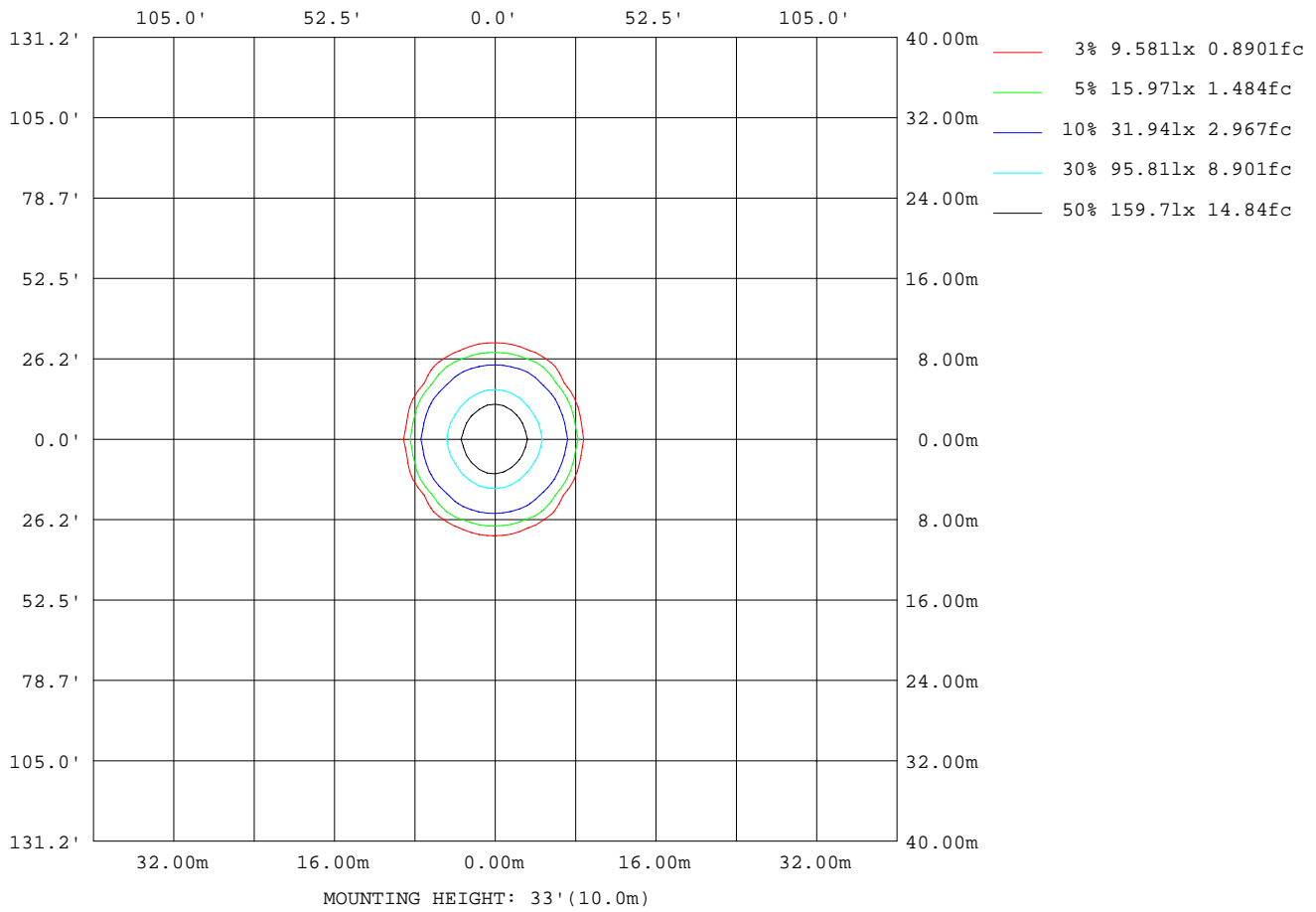
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 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

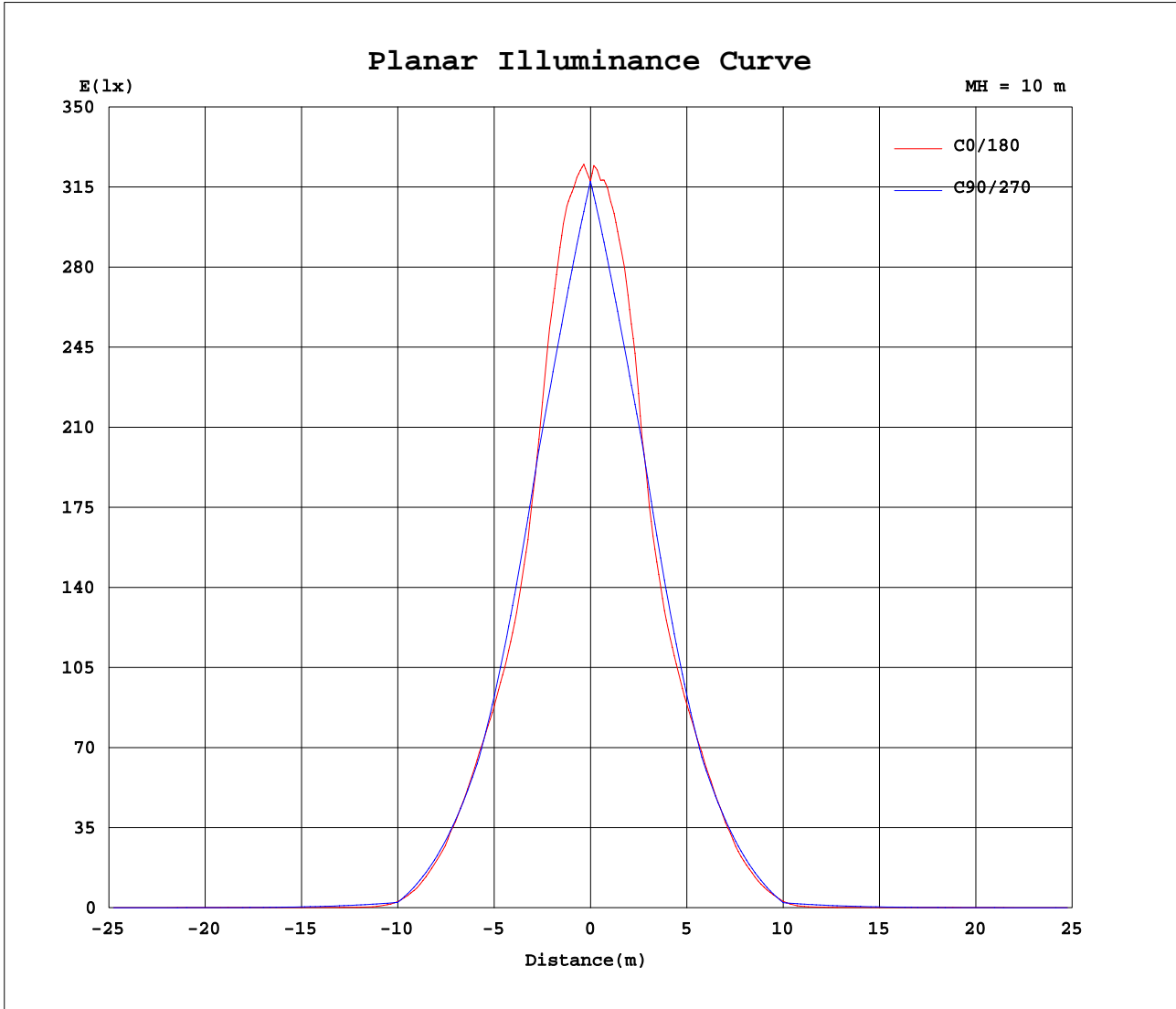
Test:U:219.5V I:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 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: HIGH
 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:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	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	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175
5	3183	3152	3123	3096	3070	3047	3027	3010	2992	2975	2961	2949	2940	2935	2918	2899	2882	2869	2858
10	2898	2839	2788	2745	2711	2684	2657	2635	2619	2610	2592	2576	2557	2564	2561	2562	2562	2549	2540
15	2273	2220	2181	2153	2133	2122	2119	2128	2126	2114	2112	2127	2143	2166	2161	2191	2200	2216	2222
20	1677	1641	1617	1601	1592	1588	1612	1627	1658	1654	1670	1697	1692	1726	1765	1772	1796	1815	1819
25	1326	1296	1276	1267	1269	1277	1286	1306	1276	1280	1294	1303	1331	1339	1364	1386	1400	1414	1417
30	1046	1002	972	960	974	1004	1018	987	963	948	946	975	982	1001	1003	1011	1008	1013	1014
35	687	647	627	627	645	650	637	635	638	633	635	648	686	685	691	696	691	696	699
40	343	311	298	303	320	318	318	317	315	330	367	390	401	407	397	393	387	385	383
45	77.1	67.8	65.3	70.4	91.9	99.7	92.3	72.7	114	154	178	182	170	150	120	97.2	85.9	74.8	68.2
50	10.5	10.3	10.4	11.6	13.6	15.8	10.5	17.3	33.1	49.8	50.0	25.4	10.3	15.4	21.5	28.5	43.3	49.3	49.3
55	7.88	8.11	7.99	8.43	8.47	8.04	9.28	10.0	10.8	7.67	7.24	8.29	9.78	12.7	16.5	19.5	27.2	30.4	30.3
60	11.3	11.6	11.2	11.3	11.1	9.48	10.8	11.9	8.39	6.54	6.63	8.29	10.1	11.7	12.9	13.1	12.8	11.9	11.4
65	9.11	7.99	7.78	7.77	7.58	5.80	8.53	8.07	5.55	4.04	4.90	7.58	9.24	9.64	9.53	9.15	8.69	8.34	8.20
70	1.56	1.55	1.63	1.75	1.97	1.83	3.20	3.04	1.55	1.79	2.91	4.55	5.78	5.99	5.91	5.61	5.32	5.09	5.00
75	1.58	1.52	1.47	1.48	1.27	1.41	1.53	1.31	1.19	1.26	1.68	2.22	2.54	2.45	2.26	2.06	1.92	1.83	1.79
80	0.59	0.56	0.53	0.60	0.66	0.86	0.90	0.82	0.80	0.73	0.62	0.52	0.41	0.30	0.20	0.12	0.05	0.01	0.00
85	0.17	0.15	0.25	0.38	0.40	0.18	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
90	0.04	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: HIGH
 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:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	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	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175
5	3127	3099	3073	3050	3028	3009	2987	2964	2944	2930	2925	2922	2917	2914	2906	2886	2869	2878	2889
10	2815	2766	2724	2689	2657	2630	2612	2602	2583	2576	2587	2586	2577	2570	2569	2568	2563	2564	2579
15	2197	2179	2172	2166	2162	2149	2138	2132	2139	2150	2161	2169	2205	2231	2232	2228	2256	2238	2233
20	1633	1618	1611	1613	1629	1660	1682	1694	1695	1701	1719	1751	1781	1815	1832	1824	1843	1837	1827
25	1292	1288	1293	1300	1315	1330	1299	1301	1321	1337	1344	1357	1377	1409	1426	1423	1429	1434	1425
30	995	993	1002	1042	1030	1008	984	974	966	983	1008	1011	1017	1020	1041	1023	1015	1031	1032
35	639	650	680	694	676	662	648	648	650	664	685	706	703	693	716	704	698	707	711
40	312	326	347	338	335	334	329	341	378	399	411	411	404	393	393	386	381	387	393
45	75.7	85.3	105	114	98.8	77.5	120	162	183	186	175	150	121	95.9	79.9	69.3	64.2	69.5	80.1
50	10.1	11.3	14.4	18.3	10.4	16.8	35.1	52.2	51.6	25.7	10.3	14.5	20.2	27.2	39.9	45.8	46.8	45.8	39.7
55	7.66	8.23	8.38	7.95	9.09	9.90	10.6	7.60	7.16	8.15	9.84	12.5	16.0	18.8	26.1	29.0	29.4	28.9	25.8
60	11.0	11.1	11.1	9.56	10.9	11.8	8.41	6.50	6.51	8.08	9.99	11.8	13.1	13.5	13.3	12.5	11.9	12.3	12.9
65	8.13	7.96	7.56	6.33	8.78	8.05	5.46	3.93	4.72	7.30	9.05	9.71	9.81	9.47	8.99	8.65	8.41	8.49	8.72
70	1.67	1.74	1.93	1.91	3.34	2.91	1.40	1.67	2.79	4.32	5.50	5.86	5.89	5.60	5.27	5.03	4.89	4.95	5.12
75	1.47	1.48	1.21	1.39	1.36	1.07	0.95	1.05	1.46	1.98	2.26	2.17	1.97	1.72	1.52	1.40	1.36	1.40	1.52
80	0.59	0.62	0.61	0.71	0.66	0.54	0.51	0.50	0.46	0.40	0.33	0.24	0.16	0.09	0.04	0.01	0.00	0.01	0.04
85	0.15	0.14	0.13	0.08	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
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: HIGH
 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:0.9390A P:200.7W PF:0.9730 Lamp Flux:20295.1x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	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	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175				
5	2906	2926	2944	2950	2958	2970	2984	3000	3018	3035	3055	3077	3101	3126	3154				
10	2583	2584	2590	2593	2590	2604	2627	2636	2652	2670	2694	2720	2754	2794	2842				
15	2227	2217	2183	2177	2159	2147	2134	2137	2151	2151	2141	2142	2158	2184	2221				
20	1821	1792	1762	1737	1713	1722	1682	1670	1641	1623	1607	1597	1603	1619	1642				
25	1412	1391	1369	1362	1330	1316	1302	1285	1319	1304	1292	1281	1275	1281	1298				
30	1029	1026	1028	1011	998	970	976	984	1006	1037	1024	1004	985	987	1009				
35	706	712	706	711	681	662	658	662	666	668	681	670	642	637	651				
40	397	409	422	421	410	388	352	334	332	333	334	337	315	304	315				
45	95.6	122	156	181	192	189	164	126	82.3	100	107	99.4	76.3	69.2	68.8				
50	26.7	20.7	15.2	10.7	26.5	52.8	54.1	37.3	18.7	11.0	17.3	14.1	11.9	10.4	10.3				
55	18.5	16.4	12.9	10.1	8.45	7.18	7.19	10.5	9.73	8.96	7.82	8.14	8.18	7.83	8.01				
60	13.1	13.1	12.0	10.5	8.79	6.97	6.36	7.83	11.1	11.0	9.71	10.5	11.3	11.1	11.5				
65	9.19	9.69	9.97	9.84	8.60	5.71	4.22	5.16	7.98	9.67	6.89	8.09	9.13	8.50	8.52				
70	5.48	5.86	6.09	6.04	5.11	3.33	1.86	1.43	3.01	3.76	2.03	2.07	1.82	1.65	1.56				
75	1.73	2.01	2.27	2.45	2.26	1.67	1.11	0.96	1.05	1.37	1.46	1.27	1.54	1.51	1.55				
80	0.09	0.17	0.25	0.34	0.42	0.47	0.52	0.53	0.55	0.69	0.78	0.66	0.65	0.59	0.59				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.16	0.17	0.17	0.16				
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: HIGH
 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