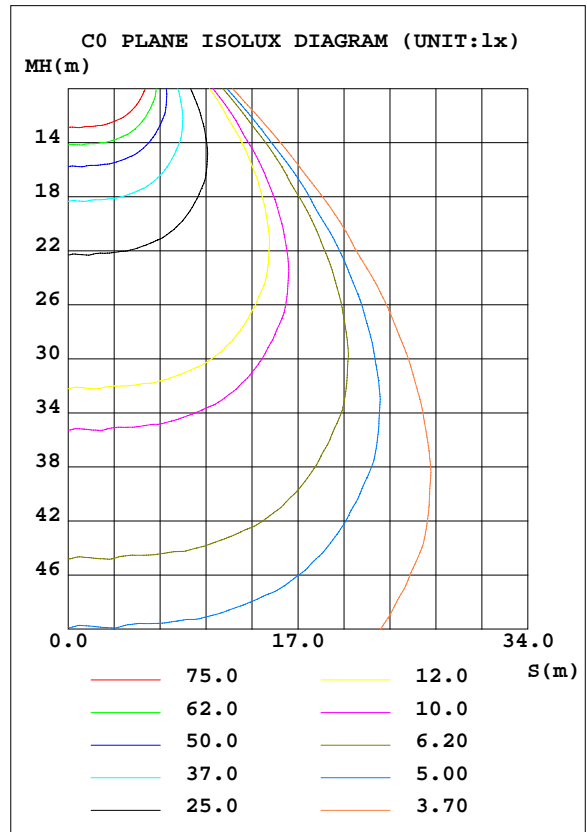
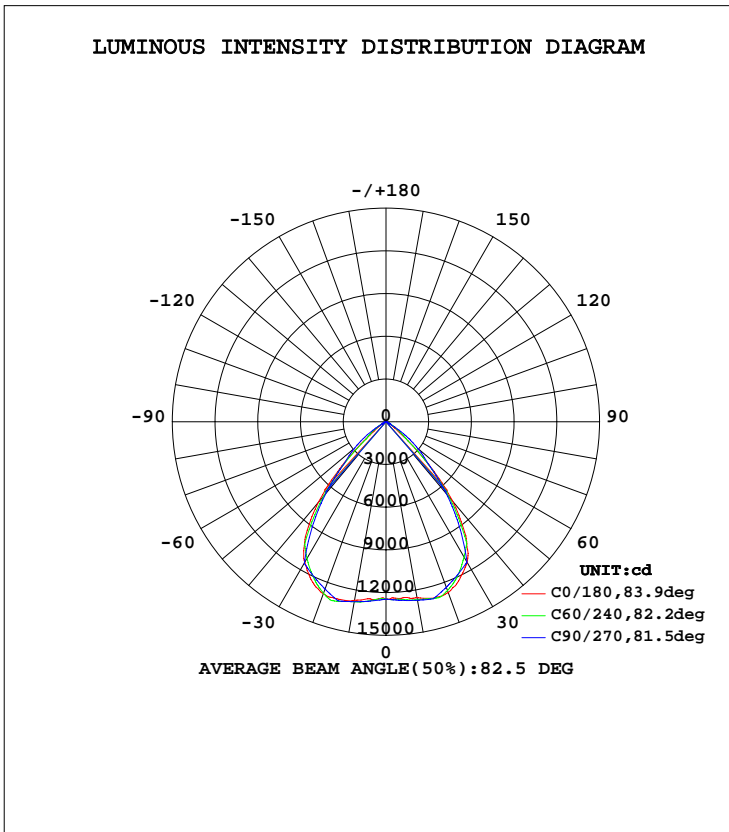


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 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: 102.26 lm/W			
MODEL	QH-HBZSL-200W	I _{max} (cd)	13149	S/MH(C0/180)	1.21
NOMINAL POWER(W)	202	LOR(%)	100.0	S/MH(C90/270)	1.17
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	20657	η UP, DN(C0-180)	0.0, 49.9
NOMINAL FLUX(lm)	20657.5	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	219.6	η down(%)	100.0	CIBSE SHR MAX	1.25



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	ℓlum
5	1249	1264	1264	1255	1244	1253	1259	1261	0- 5	299.0	299.0	1.45
10	1272	1283	1283	1267	1253	1266	1273	1274	5- 10	904.7	1204	5.83
15	1290	1304	1302	1280	1282	1283	1287	1291	10- 15	1521	2725	13.2
20	1285	1302	1251	1276	1277	1285	1237	1289	15- 20	2113	4838	23.4
25	1233	1217	1199	1199	1223	1204	1187	1212	20- 25	2600	7438	36
30	1141	1089	1148	1079	1139	1083	1138	1094	25- 30	2947	10385	50.3
35	988.0	930.3	903.2	928.2	978.3	928.1	898.7	946.5	30- 35	3050	13435	65
40	740.1	710.1	658.6	721.6	727.4	717.9	659.7	738.7	35- 40	2730	16165	78.3
45	439.7	452.8	414.1	458.1	426.0	450.7	420.7	471.1	40- 45	2055	18220	88.2
50	163.9	230.1	287.3	233.9	160.9	226.3	291.8	243.8	45- 50	1227	19447	94.1
55	75.35	70.77	160.6	75.47	70.48	70.72	162.9	77.09	50- 55	637.5	20085	97.2
60	35.64	39.91	33.83	43.32	34.59	40.83	33.96	44.13	55- 60	318.8	20404	98.8
65	19.07	20.20	23.24	20.89	17.83	20.45	23.19	21.14	60- 65	139.9	20544	99.4
70	7.608	8.943	12.66	8.708	6.868	8.861	12.43	8.913	65- 70	73.71	20617	99.8
75	1.963	4.214	2.066	4.120	1.822	4.063	1.665	4.153	70- 75	31.73	20649	100
80	0.5535	0.5920	0	0.6392	0.5488	0.4869	0	0.5317	75- 80	7.347	20656	100
85	0.1128	0	0	0	0.1163	0	0	0	80- 85	0.9473	20657	100
90	0.0400	0	0	0	0.0514	0	0	0	85- 90	0.0731	20657	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			

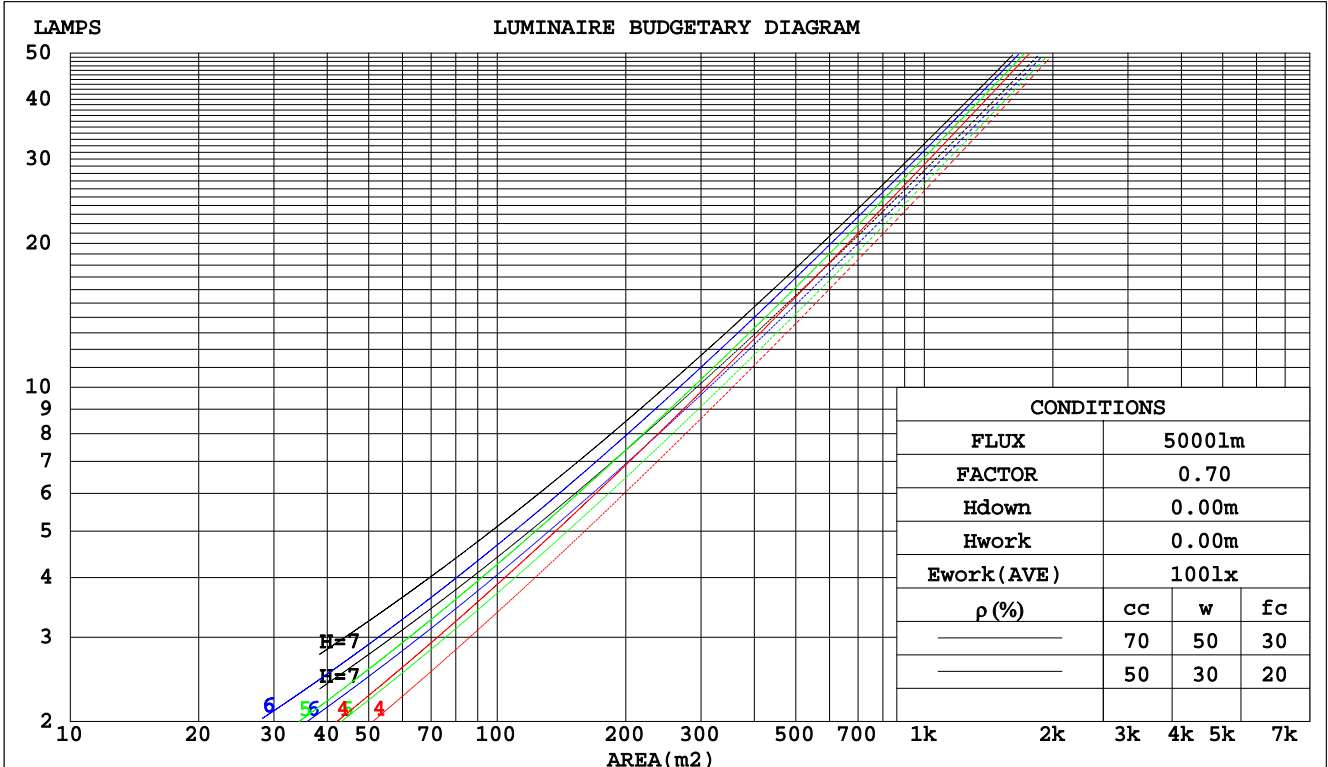
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

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:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 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	1.09	1.07	1.04	1.07	1.05	1.02	1.03	1.01	.99	.99	.98	.96	.96	.95	.93	.92
2.0	1.00	.96	.92	.98	.94	.91	.95	.92	.89	.92	.89	.87	.89	.87	.85	.83
3.0	.92	.86	.81	.90	.85	.81	.88	.83	.79	.85	.81	.78	.83	.80	.77	.75
4.0	.84	.78	.73	.83	.77	.72	.81	.76	.71	.79	.74	.71	.77	.73	.70	.68
5.0	.77	.71	.66	.76	.70	.65	.74	.69	.65	.73	.68	.64	.71	.67	.63	.62
6.0	.71	.64	.59	.70	.64	.59	.69	.63	.59	.67	.62	.58	.66	.61	.58	.56
7.0	.66	.59	.54	.65	.59	.54	.64	.58	.54	.63	.57	.53	.61	.57	.53	.51
8.0	.61	.54	.49	.60	.54	.49	.59	.53	.49	.58	.53	.49	.57	.52	.49	.47
9.0	.57	.50	.45	.56	.50	.45	.55	.49	.45	.54	.49	.45	.53	.48	.45	.43
10.0	.53	.46	.42	.52	.46	.42	.52	.46	.42	.51	.45	.41	.50	.45	.41	.40

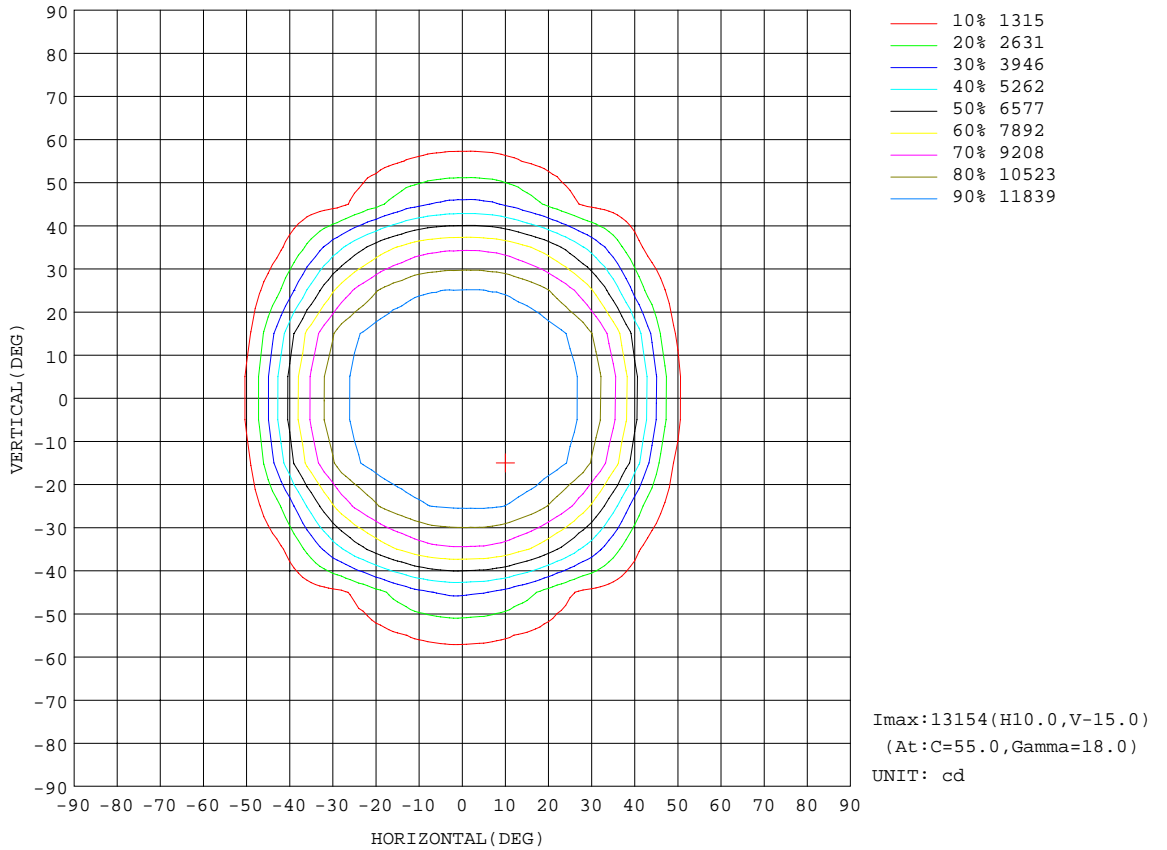


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

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:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

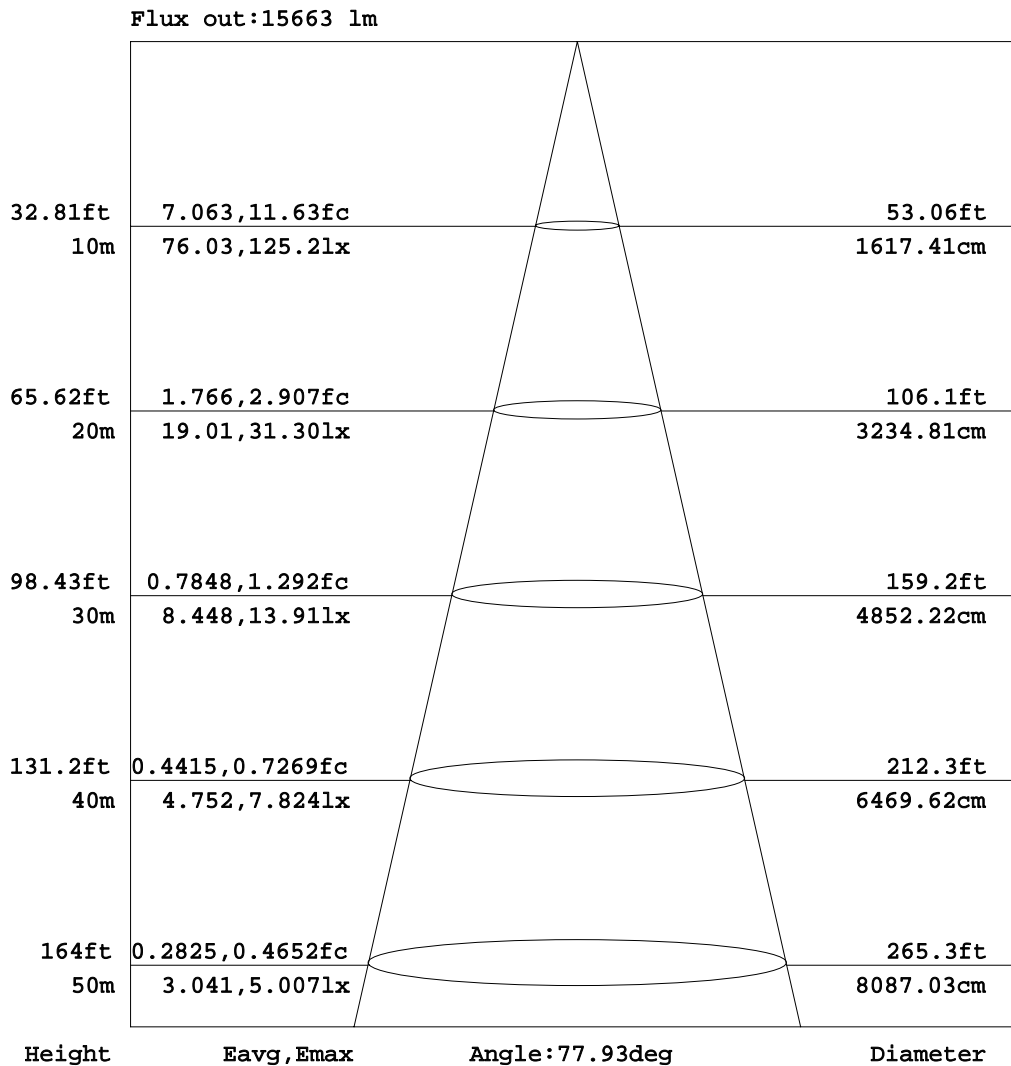


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2014-03-01

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:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:



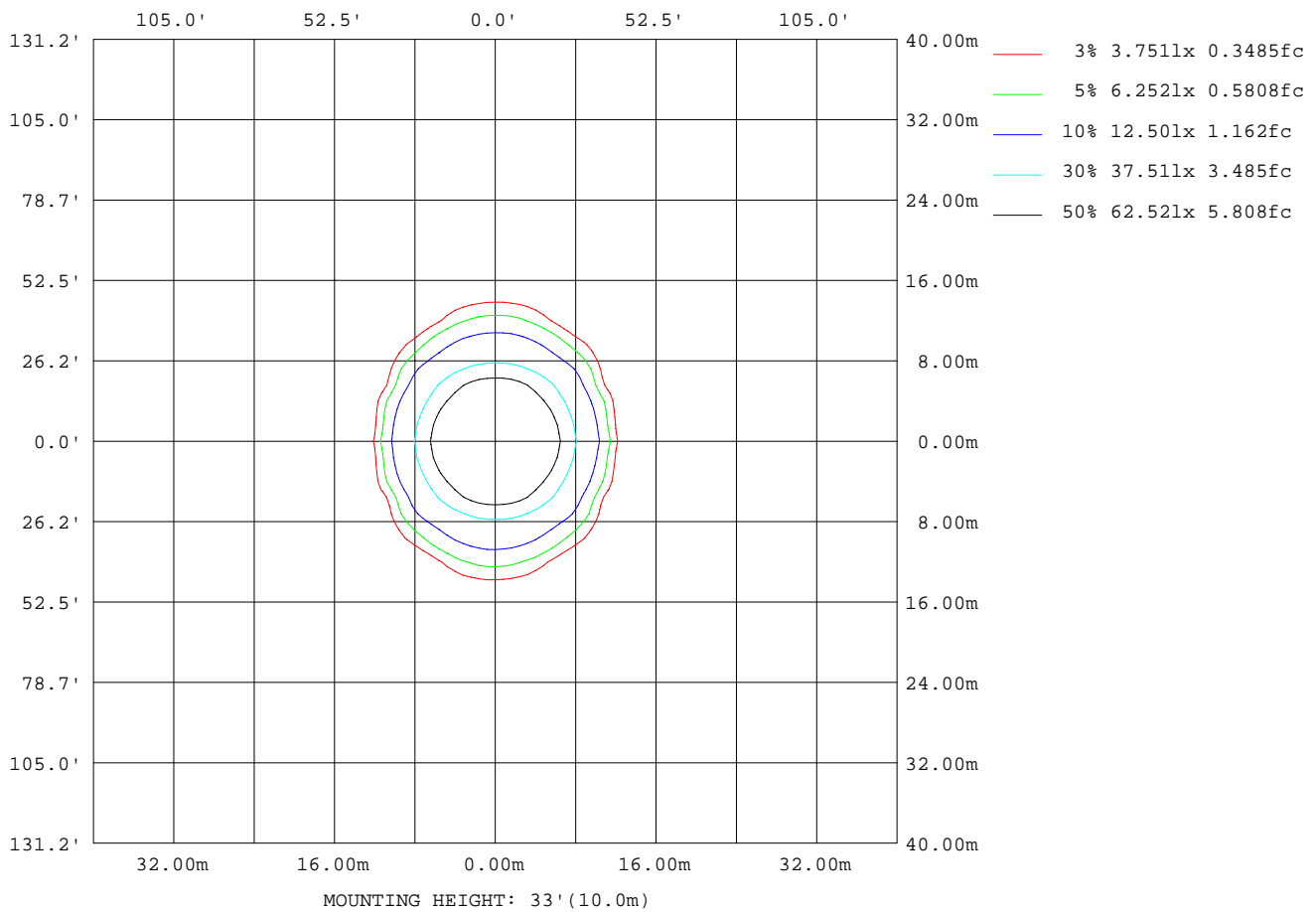
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

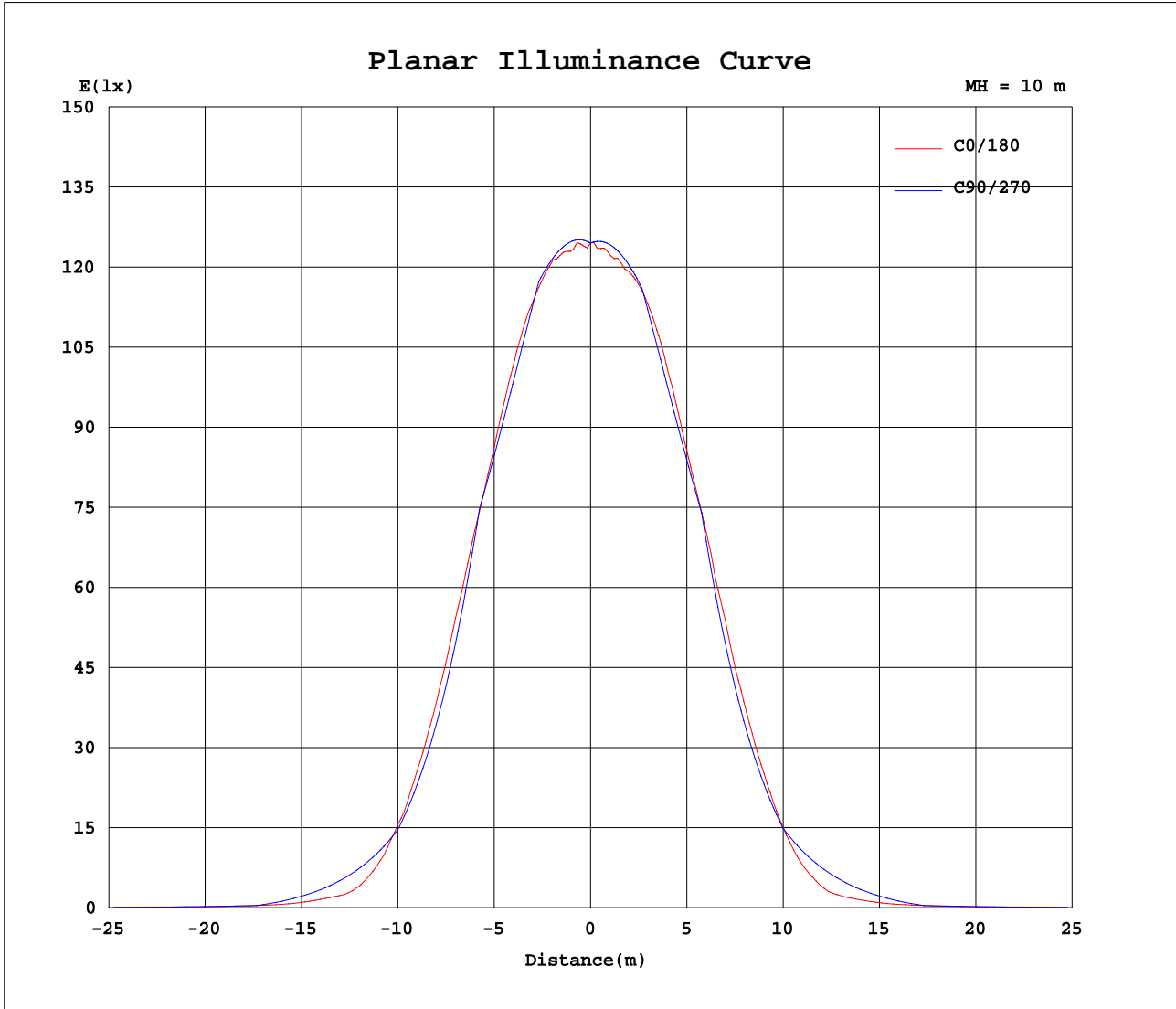
Test:U:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 lm		
NAME: LED HIGH BAY LIGHT	TYPE:	WEIGHT:6
SPEC.:CREE XTE	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:



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:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 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	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245
5	1247	1248	1249	1251	1252	1253	1253	1253	1253	1253	1253	1253	1255	1257	1259	1259	1259	1256	1254
10	1258	1260	1262	1265	1266	1268	1267	1266	1266	1267	1269	1271	1271	1270	1270	1272	1273	1270	1271
15	1281	1281	1281	1281	1283	1284	1284	1283	1283	1284	1285	1284	1285	1287	1287	1285	1287	1287	1288
20	1269	1266	1266	1267	1269	1275	1280	1285	1285	1273	1262	1253	1247	1242	1240	1236	1237	1238	1241
25	1211	1209	1210	1213	1222	1232	1216	1204	1199	1191	1193	1192	1190	1187	1188	1186	1187	1188	1191
30	1115	1116	1128	1138	1127	1103	1085	1083	1087	1092	1097	1110	1125	1130	1135	1136	1138	1138	1138
35	941	944	962	958	936	928	919	928	939	969	951	931	927	916	906	902	899	904	909
40	697	709	716	698	679	686	704	718	710	694	686	673	670	667	663	662	660	665	669
45	406	428	419	408	406	416	443	451	436	424	412	409	409	414	419	421	421	425	428
50	150	167	180	170	169	206	231	226	193	167	182	216	245	270	284	290	292	293	290
55	70.2	68.9	66.8	69.4	70.8	84.6	87.7	70.7	75.3	84.6	108	127	145	158	162	163	163	164	165
60	34.4	34.2	34.1	35.5	38.4	34.9	35.7	40.8	46.2	46.2	53.4	57.2	54.9	49.1	41.6	36.0	34.0	36.0	41.9
65	17.9	17.9	18.2	18.2	18.9	19.8	20.0	20.5	20.7	19.2	20.7	21.6	22.1	22.6	22.9	23.1	23.2	23.1	23.0
70	6.84	7.05	7.12	7.73	8.29	7.92	7.27	8.86	10.4	11.5	12.1	12.4	12.5	12.4	12.4	12.4	12.4	12.5	12.5
75	1.83	1.87	2.22	2.22	1.95	2.70	3.52	4.06	4.42	4.39	4.06	3.54	2.95	2.42	2.01	1.74	1.67	1.79	2.08
80	0.54	0.56	0.55	0.63	0.72	0.76	0.60	0.49	0.44	0.38	0.31	0.24	0.16	0.10	0.05	0.01	0.00	0.01	0.05
85	0.11	0.11	0.09	0.06	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:219.6V I:0.9440A P:202.0W PF:0.9740 Lamp Flux:20657.5x1 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	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245	1245				
5	1254	1255	1256	1258	1259	1260	1261	1261	1261	1259	1257	1255	1253	1251	1250				
10	1273	1275	1276	1273	1272	1272	1274	1276	1277	1277	1276	1276	1275	1275	1274				
15	1289	1288	1288	1288	1290	1291	1291	1291	1290	1290	1289	1289	1289	1289	1290				
20	1244	1248	1257	1266	1273	1284	1289	1286	1281	1276	1275	1273	1274	1276	1280				
25	1189	1194	1196	1195	1199	1206	1212	1221	1235	1227	1222	1219	1217	1219	1224				
30	1133	1128	1116	1108	1101	1098	1094	1098	1111	1135	1145	1134	1121	1120	1127				
35	922	932	943	962	985	959	946	938	942	952	974	973	954	952	964				
40	673	675	681	699	711	729	739	732	710	703	713	730	719	706	711				
45	421	414	416	423	438	452	471	473	447	425	417	427	429	409	410				
50	275	250	225	188	174	208	244	248	220	175	176	181	171	156	156				
55	160	148	133	113	91.0	83.5	77.1	93.6	88.8	80.1	79.2	72.8	72.8	73.3	70.3				
60	49.4	55.6	58.1	54.9	49.9	49.8	44.1	37.7	36.3	41.4	37.2	36.0	35.3	35.0	34.5				
65	22.7	22.3	21.5	20.3	18.8	21.0	21.1	20.6	20.5	19.6	19.1	19.4	19.0	18.6	18.4				
70	12.6	12.6	12.4	12.0	11.2	10.2	8.91	7.53	8.44	8.77	8.23	7.72	7.72	7.51	7.39				
75	2.53	3.06	3.62	4.08	4.37	4.42	4.15	3.70	3.02	2.18	2.39	2.41	2.00	2.03	1.93				
80	0.11	0.18	0.26	0.34	0.42	0.48	0.53	0.65	0.84	0.78	0.68	0.59	0.59	0.55	0.55				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.09	0.12	0.12	0.11				
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