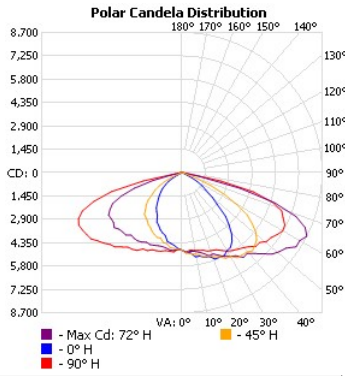


**Filename: LED module 64he1 distribution**

Lamp Output: 2 lamps, rated Lumens/lamp: 10400  
 Max Candela: 8,692.6 at Horizontal: 72°A°, Vertical: 63°A°  
 Input Wattage: 1  
 Luminous Opening: Point  
 Test Lab: LightTools Simulation  
 Photometry : Type C  
 Nema Type: 7 X 6



**Roadway Summary**

Cutoff Classification:	N/A
Distribution:	TYPE II, SHORT
Max Cd, 90 Deg Vert:	172.5
Max Cd, 80 to <90 Deg:	448.7
	Lumens % Lamp
Downward Street Side:	11,313.9 54.4%
Downward House Side:	7,400.8 35.6%
Downward Total:	18,714.6 90%
Upward Street Side:	162.5 0.8%
Upward House Side:	168.8 0.8%
Upward Total:	331.4 1.6%
<b>Total Lumens:</b>	<b>19,046.0 91.6%</b>

**Flood Summary**

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	88%	18,303.1	157.1	119.6
Beam (50%):	66%	13,732.5	144.1	90.7
<b>Total:</b>	<b>91.5%</b>	<b>19,038.4</b>		

**Zonal Lumen Summary**

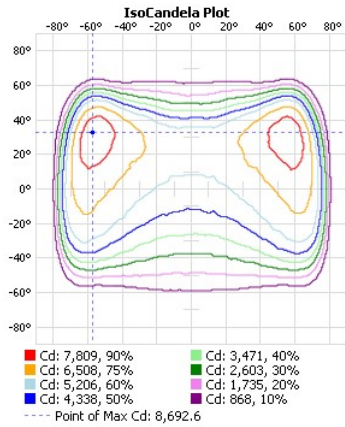
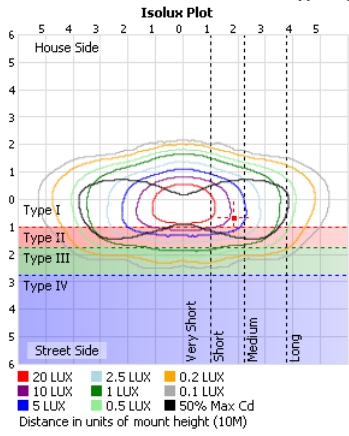
Zone	Lumens	% Lamp	% Luminaire
0-30	4,154.6	20%	21.8%
0-40	7,260.3	34.9%	38.1%
0-60	14,516.9	69.8%	76.1%
60-90	4,194.4	20.2%	22%
70-100	1,392.1	6.7%	7.3%
90-120	262.0	1.3%	1.4%
0-90	18,711.3	90%	98.1%
90-180	368.8	1.8%	1.9%
0-180	19,080.1	91.7%	100%

**Lumens Per Zone**

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	116.1	0.6%	90-95	46.4	0.2%
5-10	346.8	1.8%	95-100	46.0	0.2%
10-15	580.8	3.0%	100-105	41.2	0.2%
15-20	811.9	4.3%	105-110	44.3	0.2%
20-25	1,034.9	5.4%	110-115	42.9	0.2%
25-30	1,264.2	6.6%	115-120	41.2	0.2%
30-35	1,471.5	7.7%	120-125	35.6	0.2%
35-40	1,634.2	8.6%	125-130	36.9	0.2%
40-45	1,769.4	9.3%	130-135	34.3	0.2%
45-50	1,848.2	9.7%	135-140	0	0%
50-55	1,847.3	9.7%	140-145	0	0%
55-60	1,791.7	9.4%	145-150	0	0%
60-65	1,615.8	8.5%	150-155	0	0%
65-70	1,278.9	6.7%	155-160	0	0%
70-75	846.9	4.4%	160-165	0	0%
75-80	347.6	1.8%	165-170	0	0%
80-85	60.9	0.3%	170-175	0	0%
85-90	44.2	0.2%	175-180	0	0%

**LCS Table**

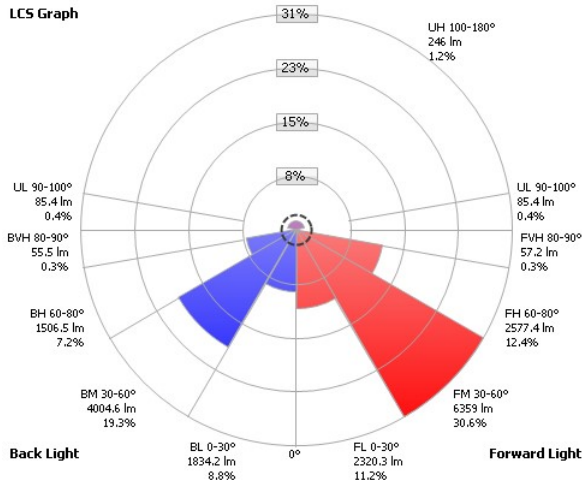
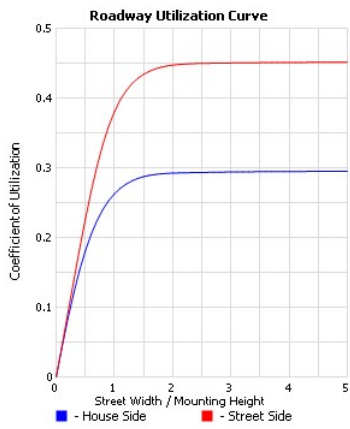
BUG Rating	B3 - U3 - G3	Lumens	Lumens %
<b>Forward Light</b>			
Low(0-30):	2,320.3	11.2%	
Medium(30-60):	6,359.0	30.6%	
High(60-80):	2,577.4	12.4%	
Very High(80-90):	57.2	0.3%	
<b>Back Light</b>			
Low(0-30):	1,834.2	8.8%	
Medium(30-60):	4,004.6	19.3%	
High(60-80):	1,506.5	7.2%	
Very High(80-90):	55.5	0.3%	
<b>Uplight</b>			
Low(90-100):	85.4	0.4%	
High(100-180):	246.0	1.2%	
<b>Trapped Light:</b>	<b>1,754.0</b>	<b>8.4%</b>	



**Illuminance at a Distance**

Distance	Center Beam LUX	Beam Width
2.0M	1,200.9 LUX	4.0 M 12.4 M
4.0M	300.2 LUX	8.1 M 24.7 M
6.0M	133.4 LUX	12.1 M 37.1 M
8.0M	75.1 LUX	16.2 M 49.4 M
10.0M	48.0 LUX	20.2 M 61.8 M

■ Vert. Spread: 90.7°  
■ Horiz. Spread: 144.1°



Scale = Max LCS %  
 Trapped Light: 1754lm, 8.4%

#### Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance: 20%

RCC %:	80				70				50				30				10				0
RW %:	70	50	30	0	70	50	30	0	50	30	20	10	50	30	20	10	50	30	20	10	0
0	1.09	1.09	1.09	1.09	1.06	1.06	1.06	1.06	1.01	1.01	1.01	1.01	0.96	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.90
1	.99	.95	.91	.88	.97	.93	.89	.76	.89	.86	.83	.85	.82	.80	.81	.79	.77	.77	.77	.77	.75
2	.90	.82	.76	.70	.87	.80	.74	.63	.77	.72	.67	.73	.69	.66	.70	.67	.64	.64	.64	.64	.62
3	.81	.71	.64	.57	.79	.70	.63	.53	.67	.61	.56	.64	.59	.54	.61	.57	.53	.53	.53	.53	.51
4	.74	.63	.54	.48	.72	.61	.53	.44	.59	.52	.46	.56	.50	.46	.54	.49	.45	.45	.45	.45	.43
5	.68	.55	.47	.40	.65	.54	.46	.38	.52	.45	.40	.50	.44	.39	.48	.43	.38	.38	.38	.38	.36
6	.62	.49	.41	.35	.60	.48	.40	.33	.47	.39	.34	.45	.38	.34	.43	.38	.33	.33	.33	.33	.31
7	.57	.44	.36	.30	.56	.44	.36	.29	.42	.35	.30	.40	.34	.29	.39	.33	.29	.29	.29	.29	.27
8	.53	.40	.32	.27	.52	.40	.32	.25	.38	.31	.26	.37	.30	.26	.36	.30	.26	.26	.26	.26	.24
9	.49	.37	.29	.24	.48	.36	.29	.23	.35	.28	.23	.34	.28	.23	.33	.27	.23	.23	.23	.23	.21
10	.46	.34	.26	.21	.45	.33	.26	.20	.32	.25	.21	.31	.25	.21	.30	.25	.21	.21	.21	.21	.19

#### Zonal Lumen Tabulation - Flood Type

	-89.75	-89.25	-88.75	-88.25	-87.5	-86.75	-86.25	-85.75	-85.25	-84.75	-84.25	-83.5	-82.5	-81.5	-80.5	-78.75	-76.25	-73.75	-71.25	-68.75	-66.25	-63.75	-61.25	-58.75	-56.25	-53.75	-51.25	-48.75	-46.25	-43.75	-41.25	-38.7		
177.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
141.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
125.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
115.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
108.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
98.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
97.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
96.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
94.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
94.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
93.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
93.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
92.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
92.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
91.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
91.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
90.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
90.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
89.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
89.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
88.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
88.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
87.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
86.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
86.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
85.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
85.25	0	0	0	0	0																													



39	4893	4768	4882	4941	4946	5066	5045	5123	5323	5551	5574	5774	5873	6061	6213	6349	6479	6642	6743	6698	6666	6764	6716	6480	6436	6589	6418	6360	6192	6145	6003	5778	5696	5571	5485	5221	5123	4952	4797	4637	4384	42C		
42	4353	4225	4196	4248	4375	4490	4584	4741	4935	5081	5267	5619	5831	6072	6309	6531	6648	6817	6712	6836	7055	6992	6805	6885	6746	6721	6770	6591	6436	6305	6186	6024	5962	5711	5477	5314	5271	5061	4767	4566	4353	415		
45	3826	3686	3798	3806	3853	3918	4069	4192	4466	4730	4997	5272	5571	5906	6189	6383	6657	6890	7007	7039	7184	7205	7154	7172	7119	6969	6903	6732	6625	6535	6465	6278	6048	5941	5702	5490	5182	5004	4859	4614	4222	40E		
48	2939	2991	3024	3012	3120	3295	3462	3600	3871	4173	4532	4880	5269	5535	5911	6226	6454	6832	7080	7271	7436	7556	7546	7551	7547	7349	7160	6973	6968	6790	6478	6336	6248	6056	5778	5498	5220	5038	4798	4427	4249	40A		
51	2426	2391	2424	2498	2572	2627	2795	3033	3291	3616	3904	4298	4803	5130	5386	5910	6393	6816	7069	7375	7585	7666	7681	7764	7783	7542	7520	7390	7114	6889	6768	6538	6335	6141	5779	5676	5322	5014	4676	4419	4118	38A		
54	1818	1757	1946	2042	2110	2209	2381	2489	2715	2952	3290	3612	4037	4298	4879	5386	5998	6370	6987	7416	7722	8027	8035	8029	7966	8017	7800	7564	7439	7278	6840	6697	6384	6166	6047	5636	5397	4985	4505	4195	3930	34E		
57	1495	1406	1435	1498	1578	1711	1828	1967	2186	2320	2586	2918	3209	3651	4230	4821	5405	6080	6822	7402	7740	8127	8402	8385	8444	8110	7993	7803	7379	7283	7045	6779	6530	6455	6017	5650	5378	4881	4462	4110	3692	32E		
60	1100	1082	1080	1140	1193	1367	1382	1513	1653	1750	1985	2166	2396	2836	3297	3895	4586	5362	6321	7069	7758	8143	8462	8662	8434	8481	8177	7934	7818	7333	7216	6899	6750	6359	6075	5585	5101	4801	4178	3808	3378	28E		
63	681	704	711	781	874	913	983	1078	1125	1283	1365	1539	1753	2020	2532	2939	3602	4505	5550	6333	7149	8010	8321	8662	8693	8520	8428	7932	7651	7469	7163	6742	6762	6337	5899	5529	4955	4526	3945	3263	2763	22E		
66	220	265	286	320	344	441	485	552	639	712	809	1007	1080	1296	1531	1957	2606	3454	4436	5535	6500	7301	7812	8208	8369	8230	8138	7903	7647	7250	6863	6827	6313	6124	5759	5363	4572	3986	3408	2758	2171	167		
69	115	90	130	127	167	190	178	217	250	272	294	368	454	567	735	1011	1427	2110	3031	3978	5083	5903	6726	7337	7572	7620	7680	7248	6814	6797	6633	6282	6036	5721	5344	4650	4053	3333	2612	1957	1375	92		
72	71	76	98	93	116	133	157	181	196	196	225	247	211	197	180	299	420	885	1489	2329	3265	4388	5047	5709	6049	6248	6339	6300	5978	5798	5872	5778	5507	5039	4512	3894	3143	2281	1658	1029	560	32		
75	59	67	82	97	102	106	117	130	167	191	203	196	203	148	120	104	114	166	415	832	1338	2107	2773	3348	3739	3977	4307	4330	4502	4420	4585	4499	4258	4026	3266	2616	1822	1241	701	324	162	14		
78	72	52	73	74	72	91	105	149	151	169	146	155	147	106	70	63	45	50	78	147	254	403	619	854	1094	1341	1680	1913	2204	2366	2453	2472	2321	1959	1512	1068	662	435	219	138	108	12		
81	78	63	64	70	94	77	109	105	126	122	116	146	149	150	101	73	58	53	60	78	100	84	76	91	96	145	223	291	382	430	444	406	382	297	221	154	153	151	138	138	123	13		
84	71	57	48	65	62	70	87	82	77	100	99	118	142	144	149	112	68	75	84	89	100	76	78	69	78	109	95	88	89	102	100	93	85	95	99	111	126	133	123	138	145	12		
87	41	45	36	51	42	62	61	66	64	76	106	106	107	143	146	159	111	74	76	64	74	76	85	68	60	62	91	93	68	82	76	93	74	92	97	119	125	119	136	108	126	11		
90	32	27	26	37	39	39	32	52	53	62	85	86	114	118	121	148	160	126	85	78	62	78	70	83	87	86	73	98	95	92	100	100	104	118	131	124	134	134	133	119	119	12		
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Luminaire Report Summary**

IESNA:LM-63-2002  
 [TEST]  
 [TESTLAB]LightTools Simulation  
 [ISSUEDATE]2018-3-22  
 [MANUFAC]  
 FILE: CANDELA MULTIPLIER: 1  
 FILE: VERTICAL ANGLES: 32, HORIZONTAL ANGLES: 121  
 FILE: COORDINATE SYSTEM: TYPE C  
 FILE: UNIT OF MEASURE: METRIC  
 FILE: BALLAST FACTOR: 1

Photometrics Pro 1.3.28 copyright 2003-2018 by jSolutions, Inc.  
 Reported data calculated from manufacturer's data file, based on IES recommended methods.