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## Indoor Distribution Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C82.77-2002

Prepared For  
**Renova Lighting Systems Inc.**

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20 Middlesex Rd.  
Mansfield, MA 02048

Catalog Number  
**RAD2-C01-L057-UNV-DM-C50-CFG-FAS-SM-C6E**

Order Number  
11168807  
Test Number  
1212870

Test Date

2016-02-24

Prepared By

Javier Caban, Technician

Approved By

Carissa Samonte-cam, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Cast and extruded aluminum housing, frosted and linear prismatic plastic enclosure  
**Lamp:** 108 white LEDs  
**Mounting:** Surface  
**Ballast/Driver:** One Mean Well HLG-100H-48A

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 28.00 in.  
Luminous Width: 9.000 in.  
Luminous Height: 6.75 in.

**Summary of Results**

Total Luminaire Output: 5738 Lumens  
Luminaire Efficacy: 68.5 lm/w  
Maximum Candela: 1192 Candela

**Electrical Data**

Test Temperature: 24.3 °C  
Voltage: 120.0 VAC  
Current: 0.7029 A  
Power: 83.76 W  
Power Factor: 0.993  
Frequency: 60 Hz  
Current THD: 8.50 %

Laboratory results may not be representative of field performance  
Ballast factors have not been applied



## Distribution - Goniophotometer

### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.3 °C	120.0 VAC	0.7029 A	83.76 W	0.993	60 Hz	8.50 %

### Summary of Results

#### Spacing Criteria

0-180: 1.18  
90-270: 1.18

#### Total Lumen Output:

5738 Lumens

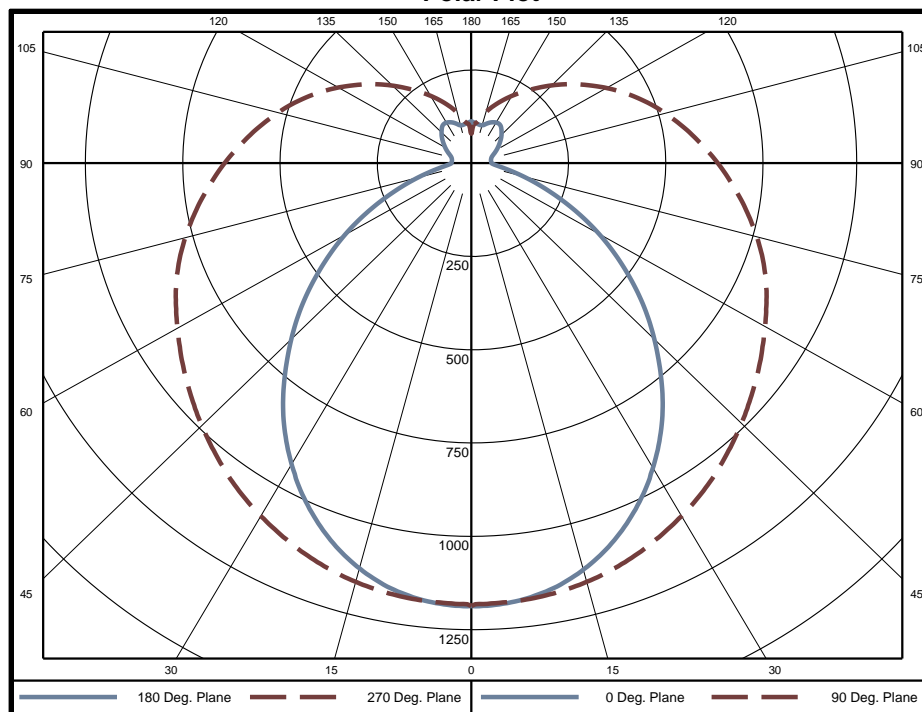
#### Luminaire Efficacy:

68.5 lm/w

#### Maximum Candela:

1192 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	28.3	0.5%	60-65	289.6	5.0%	120-125	103.3	1.8%
5-10	84.1	1.5%	65-70	273.6	4.8%	125-130	91.4	1.6%
10-15	137.3	2.4%	70-75	256.3	4.5%	130-135	80.0	1.4%
15-20	185.9	3.2%	75-80	238.2	4.2%	135-140	69.1	1.2%
20-25	228.4	4.0%	80-85	220.8	3.8%	140-145	58.8	1.0%
25-30	263.5	4.6%	85-90	204.3	3.6%	145-150	48.6	0.8%
30-35	290.5	5.1%	90-95	188.7	3.3%	150-155	38.7	0.7%
35-40	308.5	5.4%	95-100	173.2	3.0%	155-160	29.4	0.5%
40-45	317.9	5.5%	100-105	157.9	2.8%	160-165	20.7	0.4%
45-50	320.0	5.6%	105-110	143.1	2.5%	165-170	13.5	0.2%
50-55	315.1	5.5%	110-115	129.1	2.2%	170-175	7.6	0.1%
55-60	304.1	5.3%	115-120	116.0	2.0%	175-180	2.5	0.0%

Zone	Lumens	% of Luminaire
0-40	1527	26.6%
0-60	2784	48.5%
0-90	4266	74.4%
90-180	1472	25.6%



**Candela Tabulation**

Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187	1187
5	1181	1186	1184	1180	1180	1180	1184	1186	1181	1186	1184	1180	1180	1180	1184	1186
10	1161	1167	1170	1171	1173	1171	1170	1167	1161	1167	1170	1171	1173	1171	1170	1167
15	1125	1135	1147	1156	1161	1156	1147	1135	1125	1135	1147	1156	1161	1156	1147	1135
20	1075	1089	1112	1133	1143	1133	1112	1089	1075	1089	1112	1133	1143	1133	1112	1089
25	1012	1030	1067	1104	1119	1104	1067	1030	1012	1030	1067	1104	1119	1104	1067	1030
30	937	962	1016	1069	1093	1069	1016	962	937	962	1016	1069	1093	1069	1016	962
35	854	884	956	1030	1062	1030	956	884	854	884	956	1030	1062	1030	956	884
40	761	798	891	986	1027	986	891	798	761	798	891	986	1027	986	891	798
45	665	709	823	942	991	942	823	709	665	709	823	942	991	942	823	709
50	570	620	756	897	954	897	756	620	570	620	756	897	954	897	756	620
55	473	529	688	851	918	851	688	529	473	529	688	851	918	851	688	529
60	380	440	625	809	881	809	625	440	380	440	625	809	881	809	625	440
65	288	361	571	770	847	770	571	361	288	361	571	770	847	770	571	361
70	205	295	524	732	810	732	524	295	205	295	524	732	810	732	524	295
75	140	241	481	691	769	691	481	241	140	241	481	691	769	691	481	241
80	92	200	442	649	726	649	442	200	92	200	442	649	726	649	442	200
85	63	169	405	607	683	607	405	169	63	169	405	607	683	607	405	169
90	52	147	372	568	641	568	372	147	52	147	372	568	641	568	372	147
95	51	131	341	528	599	528	341	131	51	131	341	528	599	528	341	131
100	51	119	312	490	560	490	312	119	51	119	312	490	560	490	312	119
105	53	110	284	454	521	454	284	110	53	110	284	454	521	454	284	110
110	58	106	260	419	483	419	260	106	58	106	260	419	483	419	260	106
115	67	107	239	385	443	385	239	107	67	107	239	385	443	385	239	107
120	77	109	222	351	404	351	222	109	77	109	222	351	404	351	222	109
125	88	112	208	319	366	319	208	112	88	112	208	319	366	319	208	112
130	99	116	196	290	330	290	196	116	99	116	196	290	330	290	196	116
135	110	119	186	262	295	262	186	119	110	119	186	262	295	262	186	119
140	120	120	177	236	263	236	177	120	120	120	177	236	263	236	177	120
145	127	121	168	214	234	214	168	121	127	121	168	214	234	214	168	121
150	126	118	158	193	208	193	158	118	126	118	158	193	208	193	158	118
155	121	114	146	173	184	173	146	114	121	114	146	173	184	173	146	114
160	112	112	129	153	162	153	129	112	112	112	129	153	162	153	129	112
165	105	109	112	131	140	131	112	109	105	109	112	131	140	131	112	109
170	106	108	105	111	118	111	105	108	106	108	105	111	118	111	105	108
175	108	110	103	97	107	97	103	110	108	110	103	97	107	97	103	110
180	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103

**Average Luminance (cd/m<sup>2</sup>)**

Horizontal Angle (Degrees)

	0	45	90
0	7299	7299	7299
45	4664	4211	4927
55	3773	3689	4754
65	2760	3319	4727
75	1746	3160	4811
85	1191	3175	5032



### Utilization of Lumens - Zonal Cavity Method

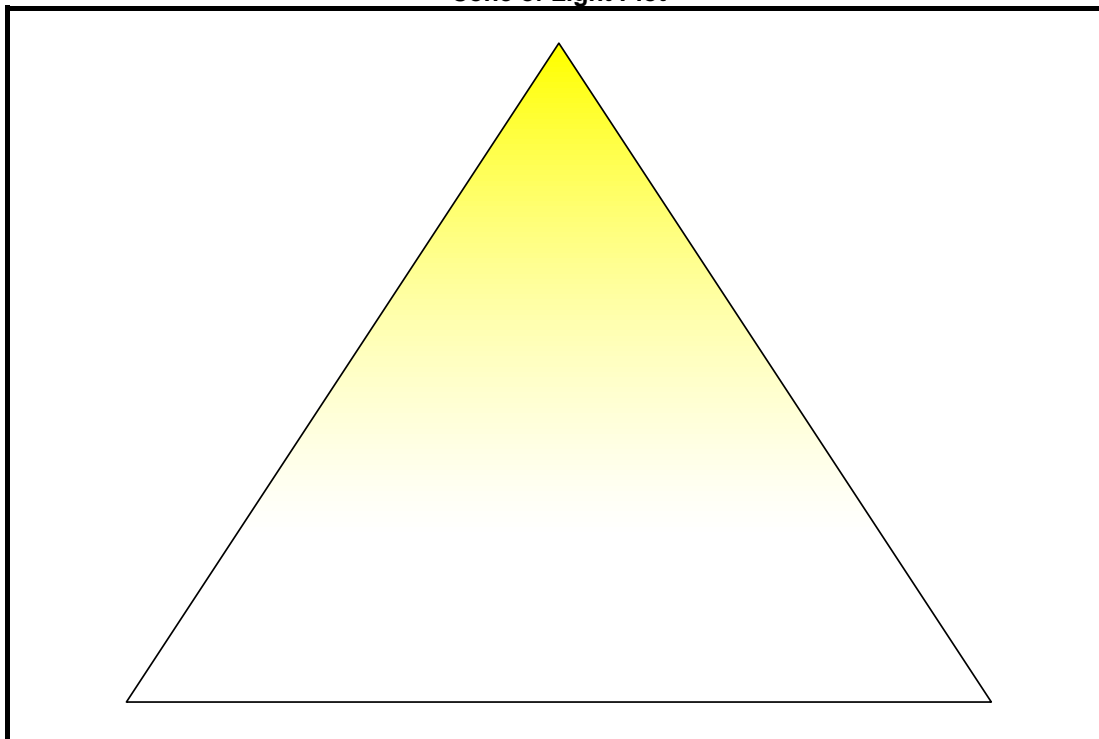
Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	6480	6480	6480	6480	6159	6159	6159	6159	5558	5558	5558	5008	5008	5008	4504	4504	4504	4266
1	5740	5404	5102	4830	5426	5127	4857	4612	4609	4394	4198	4133	3964	3808	3694	3564	3442	3216
2	5164	4632	4191	3821	4869	4395	3998	3661	3950	3629	3353	3539	3283	3059	3159	2958	2778	2568
3	4679	4027	3522	3119	4406	3823	3365	2996	3439	3064	2756	3083	2780	2525	2754	2510	2301	2108
4	4266	3542	3012	2607	4015	3366	2882	2509	3034	2633	2316	2725	2396	2129	2438	2170	1948	1769
5	3910	3146	2612	2219	3681	2993	2504	2138	2705	2295	1981	2436	2095	1827	2185	1903	1676	1513
6	3600	2818	2294	1917	3392	2685	2202	1850	2433	2024	1719	2197	1853	1590	1976	1688	1463	1312
7	3330	2544	2034	1677	3141	2427	1956	1621	2205	1802	1509	1997	1655	1400	1801	1512	1292	1153
8	3093	2311	1820	1483	2920	2208	1752	1434	2012	1619	1339	1827	1491	1245	1653	1366	1152	1023
9	2884	2113	1641	1322	2726	2021	1582	1281	1846	1465	1198	1682	1353	1117	1526	1244	1036	917
10	2698	1942	1490	1189	2553	1860	1437	1152	1704	1335	1080	1556	1235	1009	1416	1139	939	828

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	74.2	5.09
6.00	33.0	7.63
8.00	18.5	10.2
10.0	11.9	12.7
12.0	8.24	15.3
14.0	6.05	17.8
16.0	4.64	20.4

### Cone of Light Plot





### ISOFootcandle Plot

Mounting Height - 10 Feet

