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## Indoor Distribution Test Report

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

**Prepared For**  
**Scientific Lighting Products, Div of Koller Enterprises**

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United States

**Catalog Number**  
**CT2-1L4 1R (Clear CIRA Lens)**

Order Number  
11161897  
Test Number  
1216838

Test Date

2016-03-03

Prepared By

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Approved By

Timothy Wagner, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** White plastic housing, clear lens enclosure  
**Lamp:** 88 white LEDs  
**Mounting:** Pendant  
**Ballast/Driver:** One Philips Xitanium XI054C150V054DNT1

#### Luminaire



#### Luminaire Characteristics

Luminous Length: 51.00 in.  
Luminous Width: 3.500 in.  
Luminous Height: 1.50 in.

#### Summary of Results

Total Luminaire Output: 6258 Lumens  
Luminaire Efficacy: 117.6 lm/w  
Maximum Candela: 2288 Candela

#### Electrical Data

Test Temperature: 24.6 °C  
Voltage: 120.0 VAC  
Current: 0.4479 A  
Power: 53.20 W  
Power Factor: 0.990  
Frequency: 60 Hz  
Current THD: 12.9 %

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



## Distribution - Goniophotometer

### Distribution Test Conditions

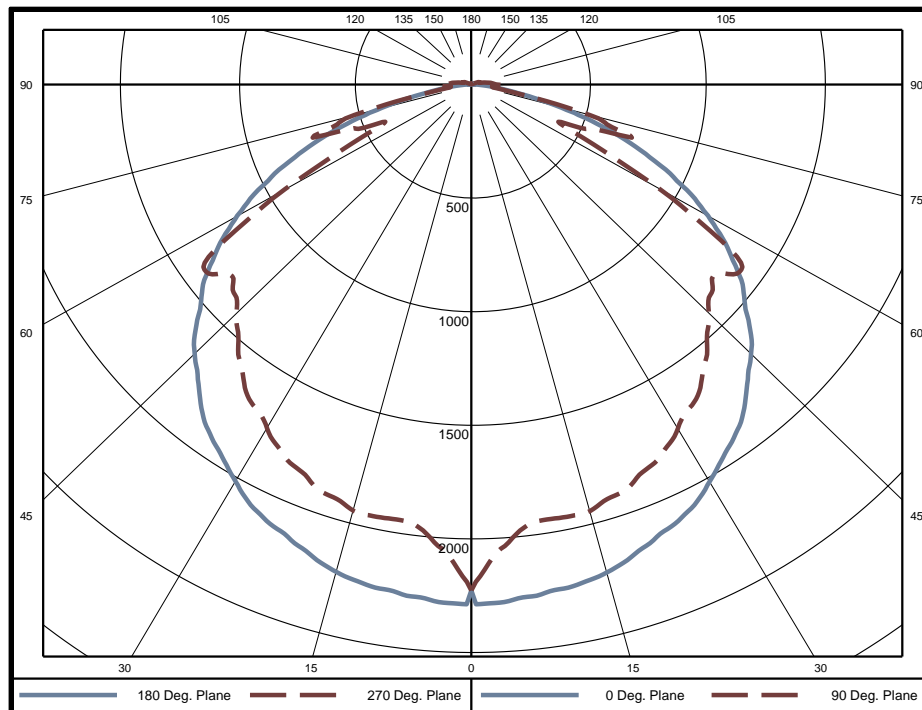
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.4479 A	53.20 W	0.990	60 Hz	12.9 %

### Summary of Results

**Spacing Criteria**  
 0-180: 1.34  
 90-270: 1.34

**Total Lumen Output:** 6258 Lumens  
**Luminaire Efficacy:** 117.6 lm/w  
**Maximum Candela:** 2288 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	51.1	0.8%	60-65	426.6	6.8%	120-125	2.0	0.0%
5-10	146.1	2.3%	65-70	297.4	4.8%	125-130	1.5	0.0%
10-15	236.6	3.8%	70-75	253.8	4.1%	130-135	1.2	0.0%
15-20	321.6	5.1%	75-80	170.6	2.7%	135-140	1.0	0.0%
20-25	397.3	6.3%	80-85	67.6	1.1%	140-145	0.9	0.0%
25-30	463.0	7.4%	85-90	52.3	0.8%	145-150	0.8	0.0%
30-35	513.1	8.2%	90-95	39.2	0.6%	150-155	0.8	0.0%
35-40	548.1	8.8%	95-100	22.7	0.4%	155-160	0.6	0.0%
40-45	563.1	9.0%	100-105	13.3	0.2%	160-165	0.5	0.0%
45-50	561.5	9.0%	105-110	10.0	0.2%	165-170	0.4	0.0%
50-55	555.4	8.9%	110-115	4.4	0.1%	170-175	0.2	0.0%
55-60	530.4	8.5%	115-120	2.7	0.0%	175-180	0.1	0.0%

Zone	Lumens	% of Luminaire
0-40	2677	42.8%
0-60	4887	78.1%
0-90	6156	98.4%
90-180	102	1.6%



**Candela Tabulation**  
Horizontal Angle (Degrees)

Vertical 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	2227	2227	2227	2227	2227	2227	2227	2227	2227	2227	2227	2227	2227	2227	2227
	5	2270	2150	2059	2022	2003	2022	2059	2150	2270	2150	2059	2022	2003	2022	2059
	10	2253	2061	1953	1944	1942	1944	1953	2061	2253	2061	1953	1944	1942	1944	1953
	15	2222	1965	1920	1946	1943	1946	1920	1965	2222	1965	1920	1946	1943	1946	1920
	20	2161	1879	1899	1900	1902	1900	1899	1879	2161	1879	1899	1900	1902	1900	1899
	25	2103	1817	1836	1831	1837	1831	1836	1817	2103	1817	1836	1831	1837	1831	1836
	30	2016	1753	1754	1761	1748	1761	1754	1753	2016	1753	1754	1761	1748	1761	1754
	35	1920	1670	1669	1660	1671	1660	1669	1670	1920	1670	1669	1660	1671	1660	1669
	40	1803	1549	1543	1556	1552	1556	1543	1549	1803	1549	1543	1556	1552	1556	1543
	45	1672	1432	1439	1420	1422	1420	1439	1432	1672	1432	1439	1420	1422	1420	1439
	50	1510	1273	1295	1319	1329	1319	1295	1273	1510	1273	1295	1319	1329	1319	1295
	55	1349	1118	1156	1317	1400	1317	1156	1118	1349	1118	1156	1317	1400	1317	1156
	60	1155	947	998	1069	922	1069	998	947	1155	947	998	1069	922	1069	998
	65	927	754	974	505	432	505	974	754	927	754	974	505	432	505	974
	70	668	555	361	471	606	471	361	555	668	555	361	471	606	471	555
	75	396	562	276	533	519	533	276	562	396	562	276	533	519	533	276
	80	172	93	334	173	144	173	334	93	172	93	334	173	144	173	334
	85	64	96	77	83	89	83	77	96	64	96	77	83	89	83	77
	90	9	125	103	109	109	109	103	125	9	125	103	109	109	109	103
	95	12	33	58	78	84	78	58	33	12	33	58	78	84	78	58
	100	11	18	33	43	50	43	33	18	11	18	33	43	50	43	33
	105	9	10	25	33	37	33	25	10	9	10	25	33	37	33	25
	110	6	6	8	25	31	25	8	6	6	8	25	31	25	8	6
	115	4	4	6	8	8	8	6	4	4	6	8	8	8	6	4
	120	3	3	5	7	7	7	5	3	3	5	7	7	7	5	3
	125	3	3	3	5	5	5	3	3	3	3	5	5	5	3	3
	130	3	3	3	4	4	4	3	3	3	3	4	4	4	3	3
	135	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	140	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	145	3	3	3	3	2	3	3	3	3	3	3	2	3	3	3
	150	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	155	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	160	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	165	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	170	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	175	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	180	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

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

Vertical Angle (Degrees)	0	45	90
	0	19340	19340
	45	19950	13350
	55	19600	11960
	65	17920	11810
	75	11970	4189
	85	4788	1626



### 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	7426	7426	7426	7426	7241	7241	7241	7241	6897	6897	6897	6581	6581	6581	6292	6292	6292	6156
1	6777	6476	6206	5962	6595	6323	6078	5855	6038	5836	5651	5776	5612	5460	5534	5403	5280	5142
2	6155	5635	5204	4841	5980	5507	5111	4775	5268	4935	4648	5047	4770	4527	4843	4614	4411	4269
3	5603	4937	4422	4011	5438	4830	4353	3968	4628	4220	3884	4441	4094	3803	4268	3975	3725	3582
4	5122	4365	3810	3386	4969	4274	3756	3356	4103	3654	3298	3944	3556	3242	3797	3463	3187	3046
5	4704	3891	3323	2904	4564	3814	3281	2883	3669	3200	2841	3534	3123	2800	3408	3049	2761	2623
6	4338	3496	2930	2525	4210	3430	2897	2509	3306	2832	2478	3190	2769	2448	3082	2709	2418	2285
7	4017	3163	2609	2222	3901	3107	2582	2210	3000	2529	2186	2901	2478	2162	2807	2428	2139	2012
8	3735	2881	2344	1975	3630	2833	2321	1965	2741	2277	1947	2654	2235	1928	2573	2194	1910	1788
9	3486	2640	2122	1772	3391	2598	2103	1764	2518	2066	1749	2443	2030	1734	2372	1996	1719	1603
10	3266	2432	1934	1602	3180	2396	1918	1595	2326	1887	1583	2261	1856	1571	2198	1827	1559	1448

### Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	139	4.81
6.00	61.9	7.22
8.00	34.8	9.62
10.0	22.3	12.0
12.0	15.5	14.4
14.0	11.4	16.8
16.0	8.70	19.2

### Cone of Light Plot

