



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300

Photometric Indoor Test Report

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

Prepared For
Renova Lighting Systems Inc
Rick Edwards
20 Middlesex Road
Mansfield, MA 02048

Catalog Number
L-KVN22-WN-L30-UNV-30DM-W25-088-C35-AF
Project Number
10567046
Test Number
831499

Test Date

2014-11-26

Prepared By

Derek Smarr

Derek Smarr, Technician

Approved By

Jeff A. Smith Jr

Jeff Smith Jr., Project Handler

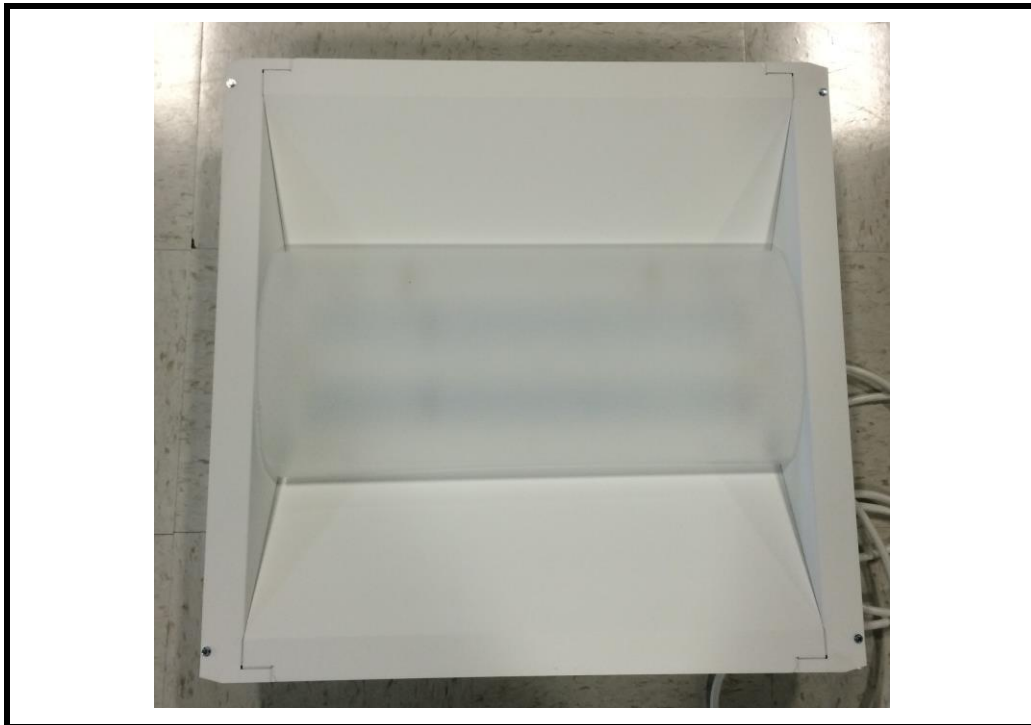
The results contained in this report pertain only to the tested sample.
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Luminaire Description: Retrofit kit tested in Lithonia 2GT8 reference troffer. Formed white enamel steel housing, white enamel steel reflector, frosted plastic lens
Catalog Number: L-KVN22-WN-L30-UNV-30DM-W25-088-C35-AF
Lamp: 88 white LEDs
Mounting: Recessed
Ballast/Driver: One Osram Optotronic OT30W/PRG1050C/UNV/DIM/L

Luminaire

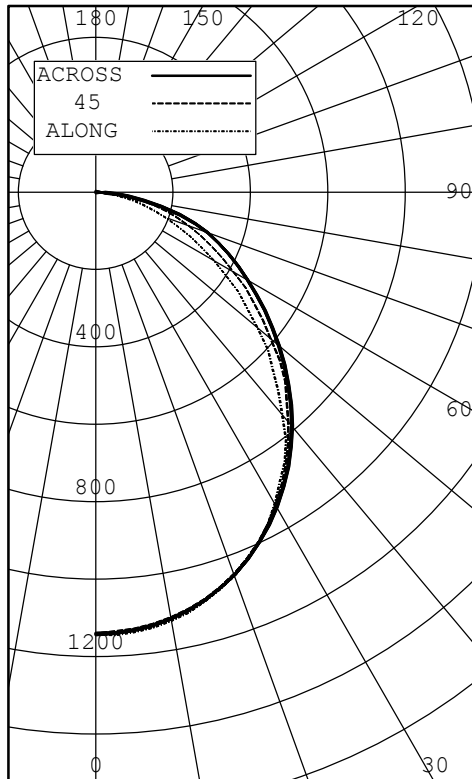


Test Conditions

Test Temperature:	25.4 °C
Voltage:	120.0 VAC
Current:	0.2136 A
Power:	25.51 W
Power Factor:	0.996
Frequency:	60 Hz
Current THD:	5.97 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	1142	1142	1142	1142	1142	
5	1142	1135	1133	1137	1136	110
10	1125	1118	1116	1120	1120	
15	1096	1090	1088	1091	1091	307
20	1054	1048	1047	1052	1052	
25	998	994	995	1001	1000	458
30	927	926	931	938	938	
35	851	846	857	865	866	535
40	749	764	774	786	789	
45	647	659	693	700	704	525
50	544	564	591	613	617	
55	451	462	499	525	533	442
60	352	370	411	443	453	
65	269	287	330	366	380	325
70	192	215	258	296	310	
75	128	150	191	220	226	194
80	73	93	123	129	128	
85	28	39	52	55	54	54
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	874	29.66
0-40	1409	47.80
0-60	2376	80.59
0-90	2948	100.00
40-90	1539	52.20
60-90	572	19.41
90-180	0	0.00
0-180	2948	100.00

EFFICACY (LUMENS PER WATT): 115.6

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 20.750 INS
 WIDTH: 20.750 INS

LUMINANCE SUMMARY CD./SQ.M.

S/MH: 1.2
 SC: 1.2

ANGLE	ALONG	45	ACROSS
45	3293	3541	3597
55	2829	3144	3358
65	2294	2822	3246
75	1776	2657	3152
85	1168	2145	2249

TESTED IN ACCORDANCE WITH IES PROCEDURES.



INTENSITY (CANDLEPOWER) DATA
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	1142	1142	1142	1142	1142	1142	
2.5	1146	1140	1137	1140	1141	1140	
5.0	1142	1135	1133	1137	1136	1136	110
7.5	1135	1128	1126	1129	1129	1129	
10.0	1125	1118	1116	1120	1120	1119	
12.5	1113	1106	1104	1107	1107	1107	
15.0	1096	1090	1088	1091	1091	1091	307
17.5	1076	1070	1069	1073	1073	1072	
20.0	1054	1048	1047	1052	1052	1050	
22.5	1028	1023	1023	1028	1027	1025	
25.0	998	994	995	1001	1000	997	458
27.5	964	962	965	971	970	966	
30.0	927	926	931	938	938	932	
32.5	886	887	895	903	903	895	
35.0	851	846	857	865	866	857	535
37.5	807	816	817	827	828	820	
40.0	749	764	774	786	789	773	
42.5	698	709	730	744	747	726	
45.0	647	659	693	700	704	682	525
47.5	605	612	645	656	661	636	
50.0	544	564	591	613	617	587	
52.5	493	510	544	568	575	539	
55.0	451	462	499	525	533	495	442
57.5	395	419	458	484	492	451	
60.0	352	370	411	443	453	407	
62.5	307	333	369	406	416	367	
65.0	269	287	330	366	380	327	325
67.5	228	249	293	330	345	290	
70.0	192	215	258	296	310	255	
72.5	160	181	224	260	271	220	
75.0	128	150	191	220	226	184	194
77.5	99	121	158	175	175	148	
80.0	73	93	123	129	128	111	
82.5	49	66	87	88	87	77	
85.0	28	39	52	55	54	47	54
87.5	10	14	21	25	26	20	
90.0	0	0	0	0	0	0	



COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	90				80				70				50				30				10				0	
	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR	0	1.221	.221	.221	.22	1.191	.191	.191	.19	1.161	.161	.161	.16	1.111	.111	.111	.11	1.061	.061	.061	.06	1.021	.021	.021	.02	1.00
	1	1.121	.081	.031	.00	1.101	.051	.020	.98	1.071	.031	.000	.96	0.990	.960	.93	0.950	.930	.91	0.920	.900	.88	0.86			
	2	1.030	.960	.890	.83	1.010	.940	.880	.82	0.990	.920	.860	.81	0.880	.840	.79	0.850	.810	.78	0.820	.790	.76	0.74			
	3	0.950	.850	.770	.70	0.930	.830	.760	.70	0.900	.820	.750	.69	0.790	.730	.68	0.760	.710	.67	0.740	.690	.66	0.64			
	4	0.880	.760	.670	.61	0.860	.750	.670	.61	0.840	.740	.660	.60	0.710	.650	.59	0.690	.630	.59	0.670	.620	.58	0.56			
	5	0.810	.690	.600	.53	0.790	.670	.590	.53	0.770	.660	.580	.52	0.640	.570	.52	0.620	.560	.51	0.600	.550	.51	0.49			
	6	0.750	.620	.530	.47	0.730	.610	.520	.46	0.710	.600	.520	.46	0.580	.510	.45	0.560	.500	.45	0.550	.490	.45	0.43			
	7	0.690	.550	.460	.41	0.670	.540	.460	.40	0.660	.540	.460	.40	0.520	.450	.40	0.510	.440	.39	0.490	.440	.39	0.37			
	8	0.640	.500	.420	.36	0.630	.490	.410	.36	0.610	.490	.410	.35	0.470	.400	.35	0.460	.400	.35	0.450	.390	.35	0.33			
	9	0.590	.460	.370	.32	0.580	.450	.370	.32	0.570	.450	.370	.32	0.430	.360	.31	0.420	.360	.31	0.410	.350	.31	0.29			
	10	0.550	.420	.330	.28	0.540	.410	.330	.28	0.530	.410	.330	.28	0.400	.330	.28	0.390	.320	.28	0.380	.320	.27	0.26			

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS
 BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.
 LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD
 THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

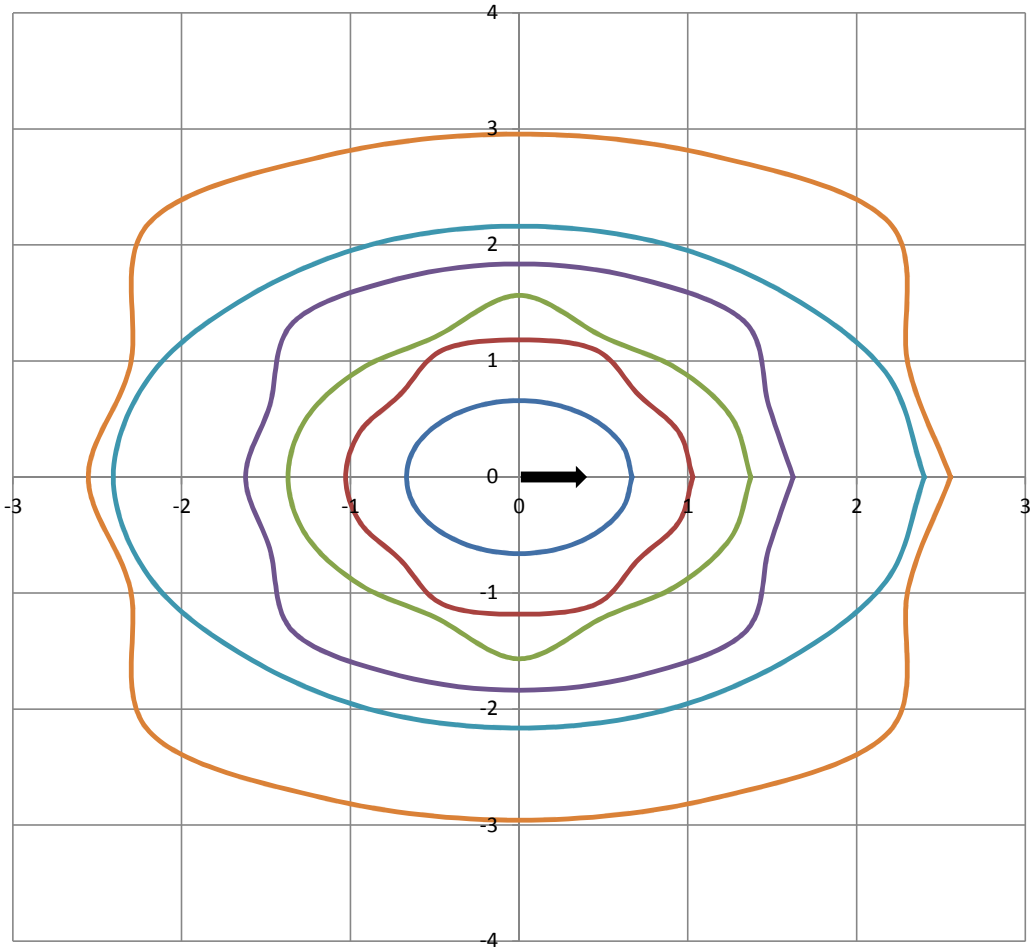
LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
 BALLAST AND FIELD FACTORS HAVE NOT BEEN APPLIED.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST
 LUMINOUS OPENING OF LUMINAIRE.



ISOFootcandle Plot

Mounting Height - 10 Feet



Grid Lines in Units of Mounting Height





Cone of Light

Cone of Light Tabulation

Mounting Height (Feet)	Footcandles at Nadir	Diameter (Feet)
4.00	71.3	4.86
6.00	31.7	7.29
8.00	17.8	9.72
10.0	11.4	12.2
12.0	7.93	14.6
14.0	5.82	17.0
16.0	4.46	19.4

Cone of Light Plot

