



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 Rd.
Mansfield, Ma 02048-1828
United States

Catalog Number
L-WDG2-MN-L30-UNV-37DM-W36-C40-CP
Project Number
10405943
Test Number
691885

Test Date

2014-07-11

Prepared By

Handwritten signature of Javier Caban in black ink.

Javier Caban, Technician

Approved By

Handwritten signature of Jeff A. Smith Jr. in black ink.

Jeff Smith Jr., Project Handler

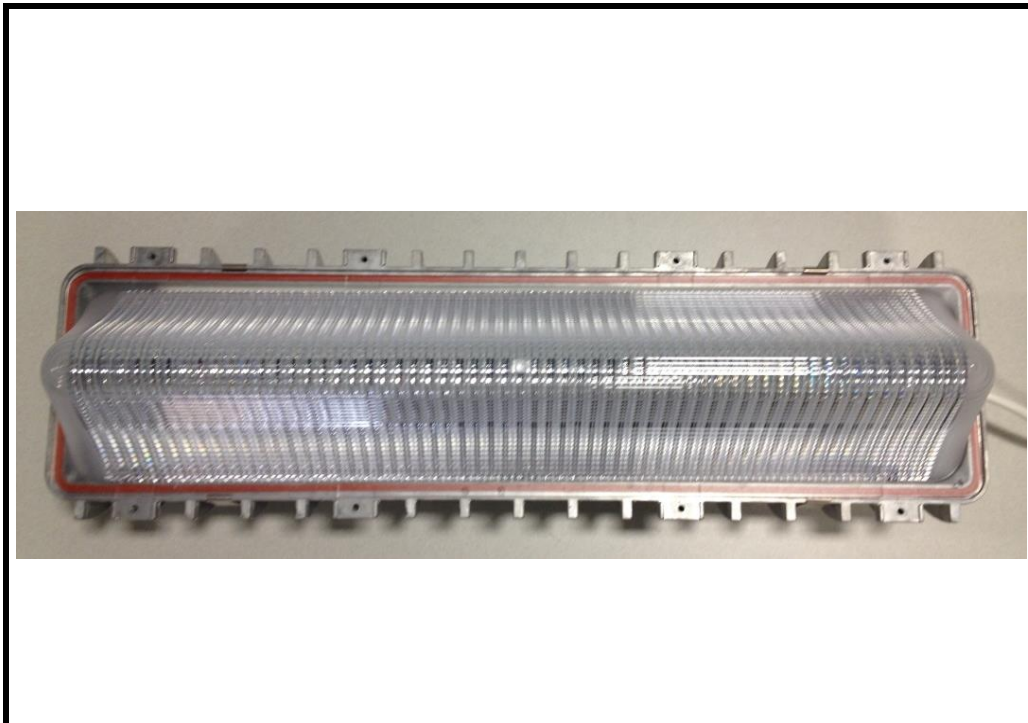
The results contained in this report pertain only to the tested sample.
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Luminaire Description: Steel housing / heatsink, internal specular reflector, clear patterned polycarbonate lens enclosure
Catalog Number: L-WDG2-MN-L30-UNV-37DM-W36-C40-CP
Lamp: 100 white LEDs, two boards with 50 LEDs each
Mounting: Surface
Ballast/Driver: One LG Innotek LLP 37W 1.04A_{dc} 26-34 max.V_{dc}

Luminaire

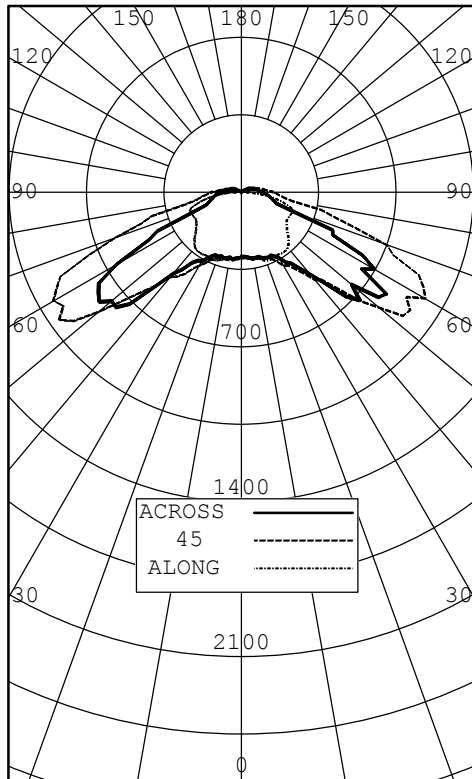


Test Conditions

Test Temperature:	25.6 °C
Voltage:	120.0 VAC
Current:	0.3031 A
Power:	36.17 W
Power Factor:	0.994
Frequency:	60 Hz
Current THD:	5.86 %



INTENSITY (CANDLEPOWER) SUMMARY OUTPUT LUMENS



ANGLE	BEAM SIDE			ACROSS	OUTPUT LUMENS
	ALONG	45	22.5		
0	295	295	295	295	
5	302	303	300	296	15
15	313	306	311	308	44
25	334	333	336	332	78
35	333	350	427	449	127
45	302	396	619	775	222
55	251	493	933	1068	323
65	245	638	887	757	323
75	213	581	436	222	192
85	76	238	178	161	94
90	35	119	145	137	97
95	24	72	113	112	49
105	13	27	61	76	27
115	7	12	26	37	12
125	2	5	5	12	4
135	1	2	1	1	1
145	0	1	0	0	0
155	0	0	0	0	0
165	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0

BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	274	9.11
0-40	529	17.60
0-60	1647	54.81
0-90	2829	94.16
40-90	2300	76.56
60-90	1182	39.35
90-180	176	5.84
0-180	3005	100.00

EFFICACY (LUMENS PER WATT): 83.0

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 24.500 INS
 WIDTH: 5.250 INS

LUMINANCE SUMMARY - CD./SQ.M.

ANGLE	BEAM SIDE		
	ALONG	45	ACROSS
45	5146	7367	7069
55	5273	12104	8959
65	6985	13083	5618
75	9917	7721	2174
85	10508	4105	1967

TESTED IN ACCORDANCE WITH IES PROCEDURES.



BEAM SIDE
 INTENSITY (CANDLEPOWER) DATA

ANGLE	PLANE					AVERAGE	OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS		
0	295	295	295	295	295	295	
5	302	303	300	296	295	299	15
10	306	305	302	309	308	306	
15	313	306	311	308	307	309	44
20	331	322	314	311	319	318	
25	334	333	336	332	317	332	78
30	329	338	385	384	345	361	
35	333	350	427	449	395	398	127
40	329	368	520	551	487	462	
45	302	396	619	775	669	569	222
50	270	430	813	877	651	645	
55	251	493	933	1068	800	755	323
60	241	617	962	872	695	730	
65	245	638	887	757	457	658	323
70	249	646	703	495	235	522	
75	213	581	436	222	154	356	192
80	147	404	234	187	135	241	
85	76	238	178	161	115	168	94
90	35	119	145	137	97	117	
95	24	72	113	112	82	88	49
100	17	46	86	95	73	68	
105	13	27	61	76	60	50	27
110	10	17	41	55	47	35	
115	7	12	26	37	36	24	12
120	3	8	13	23	25	15	
125	2	5	5	12	14	8	4
130	1	3	2	4	6	3	
135	1	2	1	1	2	1	1
140	0	2	1	0	0	1	
145	0	1	0	0	0	0	0
150	0	0	0	0	0	0	
155	0	0	0	0	0	0	0
160	0	0	0	0	0	0	
165	0	0	0	0	0	0	0
170	0	0	0	0	0	0	
175	0	0	0	0	0	0	0
180	0	0	0	0	0	0	



OPPOSITE SIDE TO BEAM
 INTENSITY (CANDLEPOWER) DATA

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS	AVERAGE	
0	295	295	295	295	295	295	
5	302	304	303	301	301	302	15
10	306	305	312	307	301	307	
15	313	313	312	304	310	310	44
20	331	326	319	316	311	320	
25	334	333	342	337	319	334	78
30	329	338	384	387	361	364	
35	333	347	453	444	390	401	128
40	329	366	502	582	481	463	
45	302	405	638	835	715	596	231
50	270	442	841	1071	766	718	
55	251	498	1007	1040	791	766	342
60	241	641	985	999	651	768	
65	245	709	904	627	421	643	309
70	249	672	610	272	167	440	
75	213	596	420	206	145	350	177
80	147	370	209	177	130	224	
85	76	200	167	155	112	154	87
90	35	108	134	127	93	108	
95	24	65	104	105	77	81	45
100	17	40	77	85	64	60	
105	13	24	55	65	52	44	24
110	10	15	36	47	42	31	
115	7	11	23	34	33	22	11
120	3	8	11	20	21	13	
125	2	6	4	9	11	6	3
130	1	4	3	3	4	3	
135	1	3	2	1	1	1	1
140	0	2	1	0	0	1	
145	0	1	1	0	0	0	0
150	0	1	0	0	0	0	
155	0	0	0	0	0	0	0
160	0	0	0	0	0	0	
165	0	0	0	0	0	0	0
170	0	0	0	0	0	0	
175	0	0	0	0	0	0	0
180	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	1.211	1.211	1.211	0.21	1.181	1.181	1.181	0.18	1.141	1.141	1.141	0.14	1.081	1.081	1.08	1.021	1.021	1.02	0.970	0.970	0.97	0.94				
1	1.081	1.010	0.950	0.90	1.040	0.980	0.920	0.87	1.010	0.950	0.900	0.85	0.900	0.850	0.82	0.850	0.810	0.78	0.800	0.770	0.75	0.72				
2	0.960	0.850	0.760	0.68	0.920	0.820	0.740	0.67	0.890	0.800	0.720	0.65	0.750	0.690	0.63	0.710	0.650	0.61	0.670	0.620	0.58	0.56				
3	0.850	0.710	0.610	0.52	0.820	0.690	0.590	0.51	0.790	0.670	0.580	0.51	0.630	0.550	0.49	0.590	0.530	0.47	0.560	0.500	0.46	0.43				
4	0.770	0.610	0.500	0.42	0.740	0.590	0.490	0.41	0.710	0.580	0.480	0.40	0.540	0.460	0.39	0.510	0.440	0.38	0.480	0.420	0.37	0.34				
5	0.690	0.530	0.410	0.33	0.660	0.510	0.400	0.32	0.630	0.490	0.390	0.32	0.460	0.380	0.31	0.440	0.360	0.30	0.410	0.340	0.29	0.26				
6	0.620	0.450	0.340	0.27	0.600	0.440	0.330	0.26	0.570	0.420	0.330	0.25	0.400	0.310	0.25	0.370	0.300	0.24	0.350	0.280	0.23	0.21				
7	0.560	0.390	0.280	0.22	0.540	0.380	0.280	0.21	0.520	0.370	0.270	0.20	0.350	0.260	0.20	0.320	0.250	0.19	0.310	0.240	0.18	0.16				
8	0.510	0.350	0.250	0.17	0.490	0.340	0.240	0.17	0.470	0.330	0.230	0.17	0.310	0.220	0.16	0.290	0.210	0.16	0.270	0.200	0.15	0.13				
9	0.470	0.310	0.210	0.14	0.450	0.300	0.210	0.14	0.430	0.290	0.200	0.14	0.270	0.190	0.14	0.260	0.180	0.13	0.240	0.180	0.12	0.10				
10	0.430	0.280	0.180	0.12	0.420	0.270	0.180	0.12	0.400	0.260	0.180	0.12	0.250	0.170	0.11	0.230	0.160	0.11	0.220	0.150	0.10	0.09				

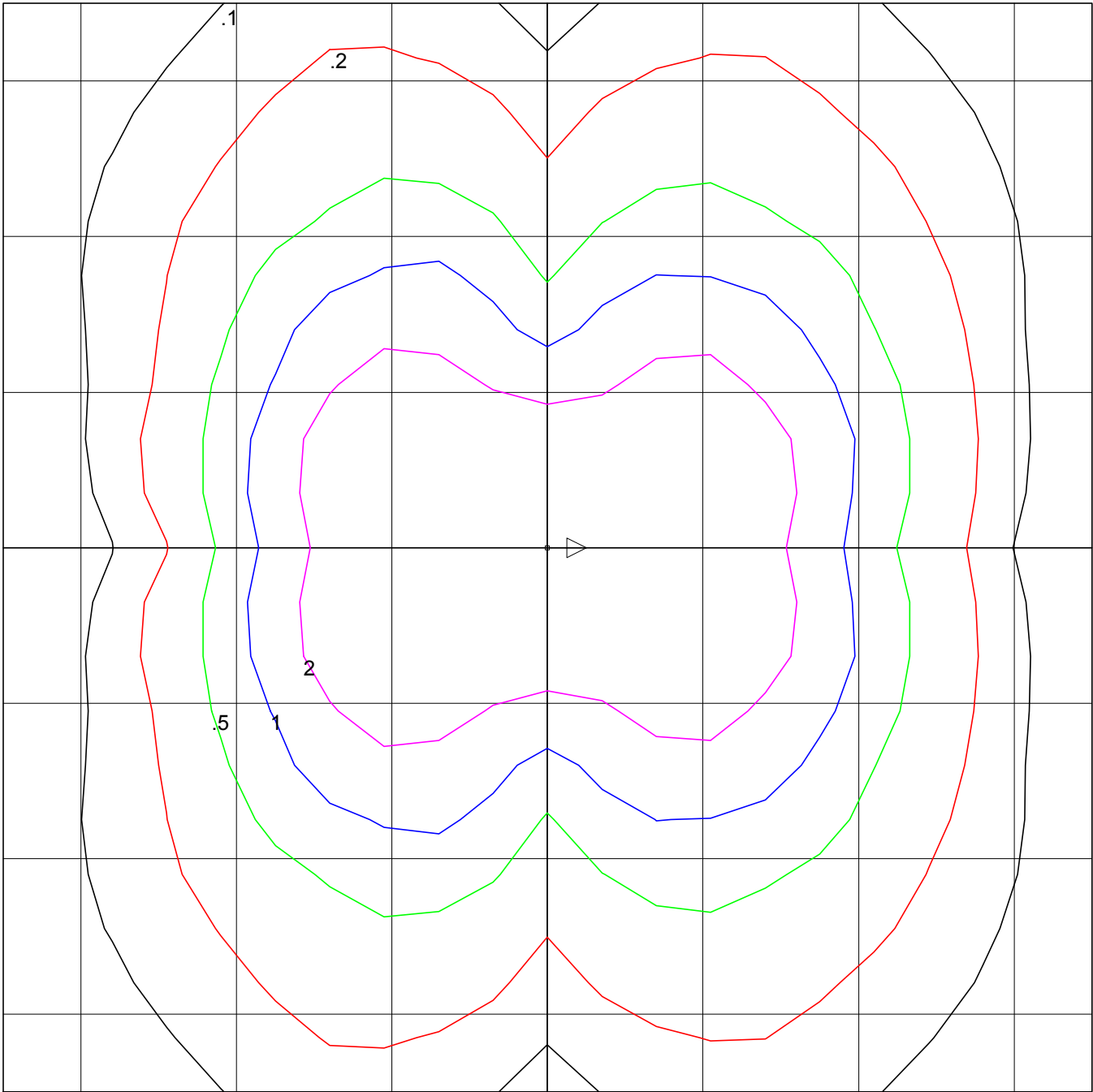
THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS
 BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.
 LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD
 THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

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

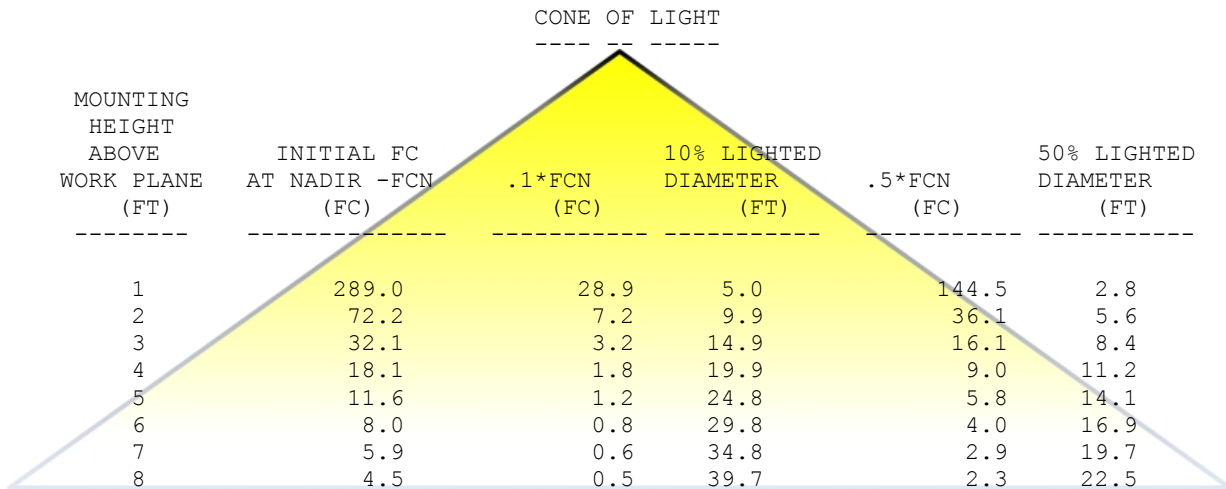
TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST
 LUMINOUS OPENING OF LUMINAIRE.



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Scale: 1 Inch = 8 Ft.
Mounting Height = 8.00 Ft.
Maximum Calculated Value = 4.61 Fc



10% CONE ANGLE: 136.1 DEGREES
 50% CONE ANGLE: 109.1 DEGREES