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UL Verification Services
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INDEPENDENT TEST LABORATORY REPORT No. 30326

Description:

ARCHITECTURAL LIGHTING WORKS,CAT# TRPSM-2-HP14-LED-120-AL-REMOTE-3500K
LED TRIPLANE LUMINAIRE WITH FROSTED DROP PLASTIC LENS
LED ARRAY. LUMINAIRE OUTPUT = 2290 LMS
LUMINAIRE OPERATING AT 120 VAC AND 32.2 WATTS

The sample(s) was(were) tested in accordance with the following applied standards/regulations:

IES LM-41-98: Approved Method for Photometric Testing of Indoor Fluorescent Luminaire (withdrawn)

IES LM-79-08: Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

Accreditation: Lighting Sciences is ISO/IEC 17025 accredited by the International Accreditation Service (IAS). The standards used in this test report are in Lighting Sciences' Scope of Accreditation.

Prepared for:

ARCHITECTURAL LIGHTING WORKS

HAYWARD, CA

Approved by:

JIM DOMIGAN

SR. TEST ENGINEER

MAR 21, 2012

This report shall not be reproduced except in full without the written approval of the laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.

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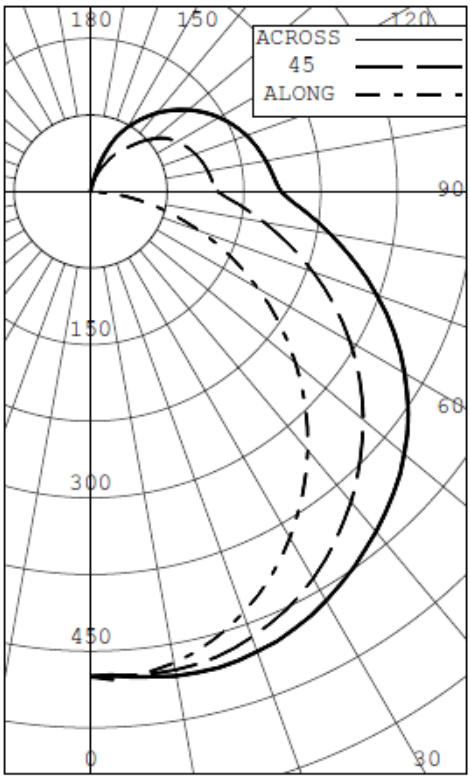

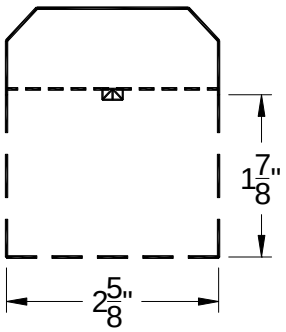

INTENSITY(CANDLEPOWER) SUMMARY

ANGLE	ALONG	22.5	45	67.5	ACROSS	OUTPUT LUMENS
0	475	475	475	475	475	
5	476	475	475	475	477	46
15	456	463	472	479	483	133
25	416	432	452	466	472	207
35	361	386	417	439	449	258
45	297	331	373	406	419	283
55	226	269	321	363	379	280
65	152	202	263	310	328	251
75	80	136	201	250	268	201
85	21	80	145	193	209	146
90	0	60	124	170	186	
95	0	57	120	165	180	118
105	0	54	113	155	169	107
115	0	50	104	141	154	92
125	0	41	91	124	136	72
135	0	29	69	104	113	50
145	0	18	48	75	87	29
155	0	10	27	43	59	13
165	0	5	11	17	17	3
175	0	1	3	2	1	0
180	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	386	16.84
0-40	643	28.09
0-60	1206	52.68
0-90	1805	78.82
40-90	1162	50.73
60-90	599	26.14
90-180	485	21.18
0-180	2290	100.00

EFFICACY (LUMENS PER WATT): 71.1

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 22.620 INS
WIDTH: 2.625 INS

LUMINANCE SUMMARY CD./SQ.M.

ANGLE	ALONG	45	ACROSS
45	10949	9388	9306
55	10267	8773	8869
65	9379	8100	8365
75	8073	7366	7776
85	6409	6838	7294

S/MH: 1.4
SC(ALONG): 1.2, SC(ACROSS): 1.4

TESTED IN ACCORDANCE WITH IES PROCEDURES.

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INTENSITY(CANDLEPOWER) DATA

ANGLE	PLANE						OUTPUT
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	LUMENS
0	475	475	475	475	475	475	
5	476	475	475	475	477	476	46
10	469	472	476	479	482	476	
15	456	463	472	479	483	471	133
20	438	450	464	474	479	462	
25	416	432	452	466	472	449	207
30	390	411	437	454	462	432	
35	361	386	417	439	449	412	258
40	330	360	396	424	434	391	
45	297	331	373	406	419	367	283
50	262	300	348	386	400	341	
55	226	269	321	363	379	314	280
60	189	236	293	337	354	284	
65	152	202	263	310	328	254	251
70	115	169	232	281	298	222	
75	80	136	201	250	268	191	201
80	49	106	172	221	238	161	
85	21	80	145	193	209	133	146
90	0	60	124	170	186	112	
95	0	57	120	165	180	108	118
100	0	56	117	160	174	105	
105	0	54	113	155	169	102	107
110	0	52	109	148	162	98	
115	0	50	104	141	154	93	92
120	0	46	98	133	145	88	
125	0	41	91	124	136	81	72
130	0	35	81	114	125	73	
135	0	29	69	104	113	65	50
140	0	23	57	91	100	55	
145	0	18	48	75	87	46	29
150	0	13	37	58	73	36	
155	0	10	27	43	59	27	13
160	0	8	18	27	39	18	
165	0	5	11	17	17	10	3
170	0	3	7	9	5	5	
175	0	1	3	2	1	2	0
180	0	0	0	0	0	0	

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AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	22.5	45	67.5	ACROSS
0	12398(3618)	12398(3618)	12398(3618)	12398(3618)	12398(3618)
30	11763(3433)	10827(3160)	10370(3026)	10127(2955)	10051(2933)
40	11252(3284)	10130(2956)	9681(2825)	9542(2785)	9493(2770)
45	10949(3195)	9744(2843)	9388(2740)	9298(2713)	9306(2716)
50	10627(3101)	9382(2738)	9045(2640)	9052(2642)	9059(2644)
55	10267(2996)	8972(2618)	8773(2560)	8819(2574)	8869(2588)
60	9851(2875)	8573(2502)	8418(2457)	8545(2494)	8588(2506)
65	9379(2737)	8082(2358)	8100(2364)	8284(2417)	8365(2441)
70	8796(2567)	7603(2219)	7744(2260)	7985(2330)	8044(2347)
75	8073(2356)	7071(2063)	7366(2149)	7685(2242)	7776(2269)
80	7328(2138)	6549(1911)	7068(2063)	7396(2158)	7482(2183)
85	6409(1870)	6130(1789)	6838(1995)	7215(2105)	7294(2129)

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COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC	90				80				70				50			30			10			0
WALL	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																						
0	1.19	1.19	1.19	1.19	1.14	1.14	1.14	1.14	1.09	1.09	1.09	1.09	0.99	0.99	0.99	0.91	0.91	0.91	0.83	0.83	0.83	0.79
1	1.07	1.01	0.95	0.91	1.02	0.97	0.92	0.87	0.97	0.92	0.88	0.84	0.84	0.80	0.77	0.76	0.74	0.71	0.70	0.67	0.65	0.62
2	0.97	0.87	0.79	0.72	0.92	0.83	0.76	0.70	0.88	0.80	0.73	0.67	0.73	0.67	0.63	0.66	0.62	0.58	0.60	0.57	0.54	0.50
3	0.88	0.76	0.67	0.59	0.84	0.73	0.64	0.57	0.79	0.69	0.62	0.56	0.64	0.57	0.52	0.58	0.53	0.48	0.53	0.49	0.45	0.42
4	0.81	0.67	0.57	0.50	0.77	0.64	0.56	0.49	0.73	0.62	0.54	0.47	0.57	0.50	0.44	0.52	0.46	0.41	0.47	0.43	0.39	0.36
5	0.74	0.59	0.50	0.42	0.70	0.57	0.48	0.41	0.66	0.55	0.46	0.40	0.50	0.43	0.38	0.46	0.40	0.35	0.42	0.37	0.33	0.30
6	0.68	0.53	0.43	0.37	0.64	0.51	0.42	0.35	0.61	0.49	0.40	0.34	0.45	0.38	0.32	0.41	0.35	0.30	0.38	0.33	0.28	0.26
7	0.62	0.47	0.38	0.32	0.59	0.45	0.37	0.31	0.56	0.44	0.35	0.29	0.40	0.33	0.28	0.37	0.31	0.26	0.34	0.29	0.25	0.22
8	0.57	0.43	0.34	0.27	0.55	0.41	0.33	0.27	0.52	0.39	0.31	0.26	0.36	0.29	0.24	0.34	0.27	0.23	0.31	0.26	0.22	0.19
9	0.53	0.39	0.30	0.24	0.51	0.37	0.29	0.23	0.48	0.36	0.28	0.23	0.33	0.26	0.21	0.30	0.24	0.20	0.28	0.23	0.19	0.17
10	0.49	0.35	0.26	0.21	0.47	0.34	0.26	0.21	0.45	0.32	0.25	0.20	0.30	0.23	0.19	0.28	0.22	0.18	0.26	0.20	0.17	0.15

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

LUMINAIRE INPUT WATTS 32.2

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.