



Report of Test

LLIA000901-057

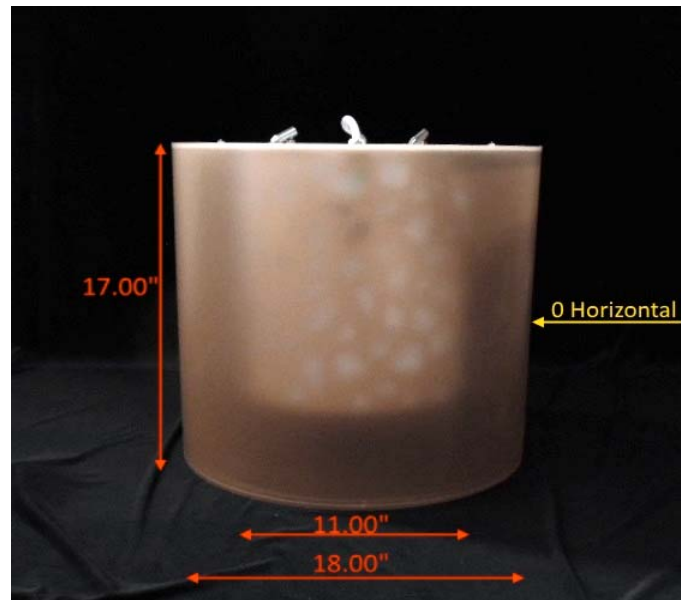
Catalog Number: EP5181701/F11/D61/L411

Pendant mounted, formed steel canopy, formed steel and plastic frame, beige perforated "lumenate" inner diffuser, translucent beige "trans lumenate" outer and lower diffuser.

One white LED module with clear patterned hemispherical lens below.

One ERP ESS030W-0620-42 LED driver

120.0Vac, 60.00Hz, 0.2096A, 24.60W, 0.978PF, 11.7%THD(i)



Performance Summary

Total Light Output	1062 lm
Luminaire Power	24.6 W
Luminous Efficacy	43.2 lm/W

PREPARED FOR : Lumetta, Inc, 33 Minnesota Avenue, Warwick, RI 02888, USA



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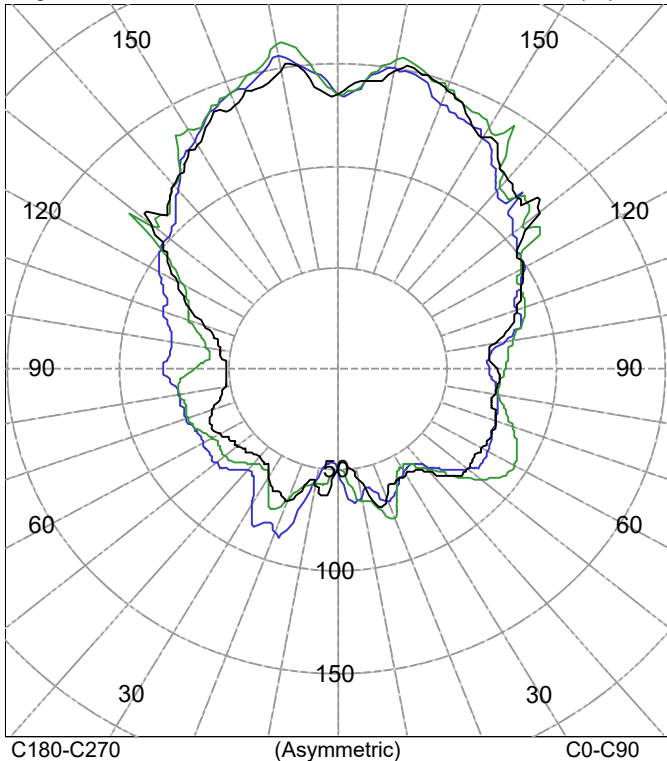
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Legend: C0/C180-Black, C45/C225-Green, C90/C270-Blue (cd)



INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	49	49	49	49	49	
5.0	48	51	56	61	64	6
10.0	55	55	66	65	63	
15.0	69	57	71	65	62	19
20.0	65	68	77	84	70	
25.0	61	67	64	79	64	32
30.0	60	59	56	64	59	
35.0	61	59	58	61	58	38
40.0	67	65	64	64	63	
45.0	75	72	74	69	70	52
50.0	77	76	85	72	77	
55.0	76	79	92	72	81	66
60.0	77	81	93	71	79	
65.0	77	80	90	74	78	75
70.0	76	80	85	78	76	
75.0	73	83	79	78	76	78
80.0	72	82	74	72	74	
85.0	74	78	74	66	71	78
90.0	72	71	76	65	69	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	57	N / A	5.3
0-40	95	N / A	8.9
0-60	213	N / A	20.0
0-90	444	N / A	41.8
40-90	349	N / A	32.9
60-90	231	N / A	21.8
90-180	618	N / A	58.2
0-180	1062	N / A	100.0

Total Light Output = 1,062 lm

Spacing Criterion: 0-180 1.9
Spacing Criterion: 90-270 2.0

Signed:

Authorized Signatory

Date of test 11-Apr-2018
Date of report 11-Apr-2018



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One ERP ESS030W-0620-42 LED driver

120.0Vac, 60.00Hz, 0.2096A, 24.60W, 0.978PF, 11.7%THD(i)

First quadrant intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	49	49	49	49	49
2.5	46	48	51	54	56
5.0	48	51	56	61	64
7.5	50	53	63	66	66
10.0	55	55	66	65	63
12.5	62	55	67	63	60
15.0	69	57	71	65	62
17.5	70	62	77	74	67
20.0	65	68	77	84	70
22.5	62	70	71	86	67
25.0	61	67	64	79	64
27.5	61	62	59	70	62
30.0	60	59	56	64	59
32.5	60	58	56	61	58
35.0	61	59	58	61	58
37.5	64	61	61	62	60
40.0	67	65	64	64	63
42.5	71	68	69	67	66
45.0	75	72	74	69	70
47.5	77	74	80	71	74
50.0	77	76	85	72	77
52.5	76	78	89	73	79
55.0	76	79	92	72	81
57.5	76	80	93	71	80
60.0	77	81	93	71	79
62.5	77	81	92	72	78
65.0	77	80	90	74	78
67.5	77	80	87	76	77
70.0	76	80	85	78	76
72.5	75	81	82	79	76
75.0	73	83	79	78	76
77.5	72	83	76	75	75
80.0	72	82	74	72	74
82.5	73	81	74	68	73
85.0	74	78	74	66	71
87.5	74	74	75	65	70
90.0	72	71	76	65	69



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First quadrant intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	72	71	76	65	69
92.5	70	69	77	66	68
95.0	69	70	78	69	69
97.5	70	72	79	72	72
100.0	73	74	81	74	77
102.5	78	76	83	77	82
105.0	82	79	87	80	86
107.5	84	83	90	84	87
110.0	87	85	91	87	86
112.5	89	89	92	91	87
115.0	92	91	92	95	90
117.5	94	95	92	100	93
120.0	98	98	95	102	98
122.5	99	100	98	102	99
125.0	99	103	103	103	100
127.5	108	118	113	104	103
130.0	120	151	110	107	104
132.5	123	149	116	142	107
135.0	117	131	122	142	111
137.5	119	118	114	110	111
140.0	121	122	116	112	113
142.5	123	124	122	118	117
145.0	127	132	136	135	123
147.5	134	137	136	144	131
150.0	130	135	137	144	131
152.5	134	136	141	145	134
155.0	138	139	141	142	135
157.5	143	143	144	145	137
160.0	145	142	147	147	138
162.5	149	147	147	151	142
165.0	150	147	152	150	148
167.5	153	151	155	154	150
170.0	149	151	155	162	150
172.5	143	144	149	155	147
175.0	142	140	142	144	141
177.5	139	138	136	136	135
180.0	136	136	136	136	136



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Second quadrant intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	49	49	49	49	49
2.5	56	58	59	58	57
5.0	64	70	72	68	62
7.5	66	76	80	70	62
10.0	63	73	76	67	58
12.5	60	67	71	70	56
15.0	62	69	72	81	60
17.5	67	75	71	89	66
20.0	70	76	66	86	69
22.5	67	73	64	80	67
25.0	64	73	64	80	66
27.5	62	72	65	81	66
30.0	59	68	63	76	63
32.5	58	64	60	69	59
35.0	58	62	58	65	57
37.5	60	61	58	62	56
40.0	63	61	60	61	56
42.5	66	62	63	61	57
45.0	70	65	67	62	58
47.5	74	68	70	63	59
50.0	77	72	72	63	59
52.5	79	75	74	63	59
55.0	81	79	76	65	60
57.5	80	83	79	69	61
60.0	79	86	81	73	63
62.5	78	87	81	77	64
65.0	78	88	80	78	64
67.5	77	89	79	77	63
70.0	76	91	77	76	61
72.5	76	93	77	75	58
75.0	76	94	79	75	55
77.5	75	95	82	76	54
80.0	74	92	83	77	52
82.5	73	86	82	79	52
85.0	71	80	79	79	51
87.5	70	73	74	76	51
90.0	69	68	69	71	51



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Second quadrant intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	69	68	69	71	51
92.5	68	66	65	65	51
95.0	69	68	64	60	52
97.5	72	71	65	58	54
100.0	77	72	67	58	55
102.5	82	72	67	60	56
105.0	86	72	66	64	58
107.5	87	73	67	67	61
110.0	86	76	70	70	65
112.5	87	80	74	73	71
115.0	90	85	79	76	76
117.5	93	88	84	81	80
120.0	98	90	89	86	84
122.5	99	93	92	90	90
125.0	100	102	104	97	95
127.5	103	130	111	114	100
130.0	104	116	100	115	112
132.5	107	119	105	117	117
135.0	111	124	125	134	110
137.5	111	108	106	113	114
140.0	113	110	110	115	117
142.5	117	115	112	118	119
145.0	123	120	126	127	123
147.5	131	135	136	135	126
150.0	131	133	139	134	127
152.5	134	132	139	135	131
155.0	135	136	140	137	136
157.5	137	143	142	141	137
160.0	138	147	149	145	137
162.5	142	150	150	149	142
165.0	148	149	150	148	143
167.5	150	147	155	151	144
170.0	150	151	159	155	150
172.5	147	146	147	150	151
175.0	141	141	141	143	144
177.5	135	136	136	135	135
180.0	136	136	136	136	136



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Third quadrant intensity data (cd)

Gamma	C-Plane				
	C180	C202.5	C225	C247.5	C270
0.0	49	49	49	49	49
2.5	57	54	52	49	47
5.0	62	60	56	50	47
7.5	62	62	57	50	49
10.0	58	58	57	53	54
12.5	56	54	58	58	64
15.0	60	56	60	62	78
17.5	66	62	64	63	86
20.0	69	67	70	63	84
22.5	67	67	75	65	81
25.0	66	63	74	68	84
27.5	66	57	69	69	86
30.0	63	54	63	68	79
32.5	59	52	60	65	72
35.0	57	52	59	62	67
37.5	56	54	60	60	64
40.0	56	56	61	59	65
42.5	57	58	63	59	67
45.0	58	60	65	61	70
47.5	59	63	66	64	71
50.0	59	65	67	67	72
52.5	59	66	67	70	72
55.0	60	67	66	72	72
57.5	61	69	66	75	71
60.0	63	71	67	78	71
62.5	64	74	69	80	71
65.0	64	75	70	81	71
67.5	63	74	72	81	72
70.0	61	72	72	80	73
72.5	58	71	72	75	73
75.0	55	72	71	69	73
77.5	54	74	72	64	73
80.0	52	76	73	61	73
82.5	52	78	73	60	74
85.0	51	77	72	61	76
87.5	51	73	69	61	78
90.0	51	67	65	61	79



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Third quadrant intensity data (cd)

Gamma	C-Plane				
	C180	C202.5	C225	C247.5	C270
90.0	51	67	65	61	79
92.5	51	61	61	62	79
95.0	52	57	59	64	77
97.5	54	55	59	66	77
100.0	55	55	60	68	76
102.5	56	56	62	69	77
105.0	58	57	65	70	79
107.5	61	61	69	71	82
110.0	65	64	72	74	84
112.5	71	69	73	77	85
115.0	76	74	74	82	87
117.5	80	79	77	87	90
120.0	84	84	81	93	94
122.5	90	87	87	96	97
125.0	95	92	94	97	99
127.5	100	99	109	101	101
130.0	112	130	109	105	101
132.5	117	149	112	112	102
135.0	110	142	108	140	105
137.5	114	118	113	115	110
140.0	117	114	116	115	114
142.5	119	117	118	117	117
145.0	123	125	126	125	124
147.5	126	138	136	137	127
150.0	127	133	136	137	130
152.5	131	136	135	137	134
155.0	136	136	140	141	139
157.5	137	138	142	146	140
160.0	137	143	144	148	144
162.5	142	146	147	148	145
165.0	143	148	150	151	147
167.5	144	149	154	156	151
170.0	150	153	162	166	156
172.5	151	155	161	159	153
175.0	144	146	151	151	147
177.5	135	137	141	143	143
180.0	136	136	136	136	136



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Fourth quadrant intensity data (cd)

Gamma	C-Plane				
	C270	C292.5	C315	C337.5	C0
0.0	49	49	49	49	49
2.5	47	46	45	46	46
5.0	47	48	49	48	48
7.5	49	54	58	55	50
10.0	54	59	64	59	55
12.5	64	67	68	61	62
15.0	78	79	78	61	69
17.5	86	85	87	60	70
20.0	84	81	83	56	65
22.5	81	73	75	55	62
25.0	84	68	72	56	61
27.5	86	65	71	59	61
30.0	79	61	67	61	60
32.5	72	59	63	62	60
35.0	67	59	60	65	61
37.5	64	59	60	65	64
40.0	65	60	62	67	67
42.5	67	63	65	69	71
45.0	70	65	69	72	75
47.5	71	68	72	74	77
50.0	72	69	74	75	77
52.5	72	69	76	75	76
55.0	72	69	76	74	76
57.5	71	68	75	73	76
60.0	71	68	74	73	77
62.5	71	68	72	74	77
65.0	71	68	70	75	77
67.5	72	67	67	76	77
70.0	73	66	65	77	76
72.5	73	67	64	76	75
75.0	73	69	64	74	73
77.5	73	72	65	71	72
80.0	73	74	65	68	72
82.5	74	75	65	67	73
85.0	76	74	65	67	74
87.5	78	72	65	67	74
90.0	79	70	66	67	72



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Fourth quadrant intensity data (cd)

Gamma	C-Plane				
	C270	C292.5	C315	C337.5	C0
90.0	79	70	66	67	72
92.5	79	68	67	66	70
95.0	77	67	70	66	69
97.5	77	68	72	68	70
100.0	76	68	73	71	73
102.5	77	70	72	74	78
105.0	79	72	71	77	82
107.5	82	74	72	80	84
110.0	84	76	75	82	87
112.5	85	78	78	83	89
115.0	87	83	82	85	92
117.5	90	88	87	89	94
120.0	94	91	92	94	98
122.5	97	92	97	99	99
125.0	99	97	106	109	99
127.5	101	121	112	139	108
130.0	101	120	127	114	120
132.5	102	104	108	113	123
135.0	105	123	131	135	117
137.5	110	111	114	117	119
140.0	114	113	115	118	121
142.5	117	118	121	123	123
145.0	124	130	136	139	127
147.5	127	143	146	142	134
150.0	130	144	145	139	130
152.5	134	142	143	139	134
155.0	139	144	145	141	138
157.5	140	144	147	141	143
160.0	144	145	150	142	145
162.5	145	148	154	149	149
165.0	147	151	155	155	150
167.5	151	156	158	159	153
170.0	156	160	162	158	149
172.5	153	154	157	148	143
175.0	147	148	149	145	142
177.5	143	143	143	141	139
180.0	136	136	136	136	136



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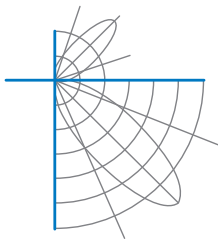
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Coefficients Of Utilization - Zonal Cavity Method																		
Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42
1	92	86	81	77	84	78	74	70	64	60	57	50	47	45	37	35	34	28
2	83	73	66	60	74	67	60	54	54	49	44	42	38	35	31	28	26	20
3	74	63	55	48	67	57	50	44	46	40	36	36	31	28	26	23	20	16
4	68	55	46	40	61	50	42	36	40	34	29	31	27	23	23	19	17	13
5	62	49	40	33	55	44	36	30	36	29	25	28	23	19	20	17	14	10
6	57	43	35	28	51	39	32	26	32	26	21	25	20	16	18	15	12	9
7	52	39	30	24	47	35	28	22	29	23	18	22	18	14	16	13	10	7
8	48	35	27	21	43	32	25	19	26	20	16	20	16	12	15	11	9	6
9	45	32	24	19	40	29	22	17	24	18	14	18	14	11	14	10	8	6
10	42	29	21	16	38	26	20	15	22	16	12	17	13	10	13	9	7	5

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot			
Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	1.4	11.49	12.05
8.0	0.8	15.32	16.06
10.0	0.5	19.15	20.08
12.0	0.3	22.98	24.09
14.0	0.3	26.81	28.11
16.0	0.2	30.64	32.12



Test Report No. LLIA000901-057

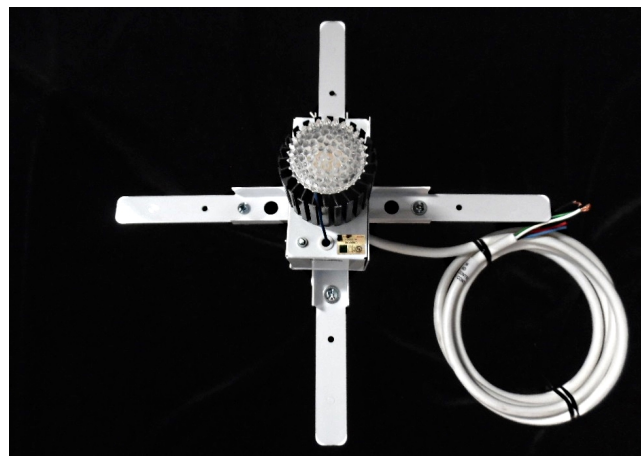
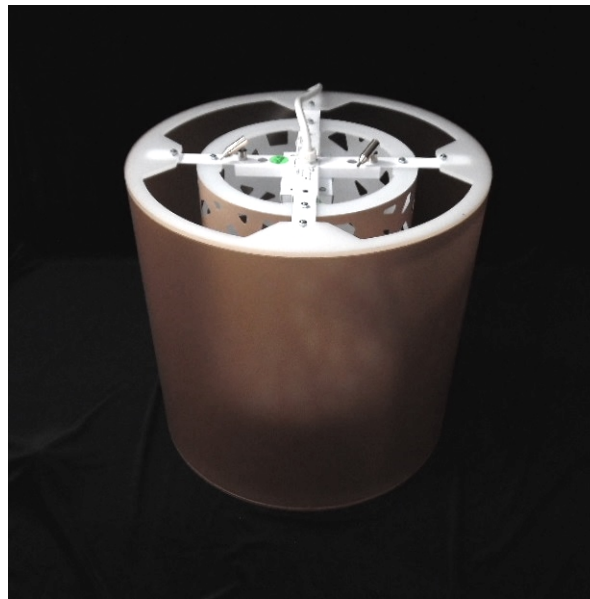
Catalog Number: EP5181701/F11/D61/L411

Pendant mounted, formed steel canopy, formed steel and plastic frame, beige perforated "lumenate" inner diffuser, translucent beige "trans lumenate" outer and lower diffuser.

One white LED module with clear patterned hemispherical lens below.

One ERP ESS030W-0620-42 LED driver

120.0Vac, 60.00Hz, 0.2096A, 24.60W, 0.978PF, 11.7%THD(i)





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Test Distance 9.5 m
Test Temperature 24.9 °C

Notes The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2015, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.