

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130263

Luminaire Tested: **HL612ICAT - HLM6930 - HL6WFL - 71PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130263
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33492)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL612ICAT - HLM6930 - HL6WFL - 71PS
Description: HALO ALLSLOPE 6" 21W, Drop Opal Glass Lens, White Polymer Trim Ring
"Dead Front", Wet Location - Showerlight using 55 Degree Optic at a 6-12
Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 855.4 lumens
Efficiency: N/A
Efficacy: 44.8 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.29 / 1.46
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

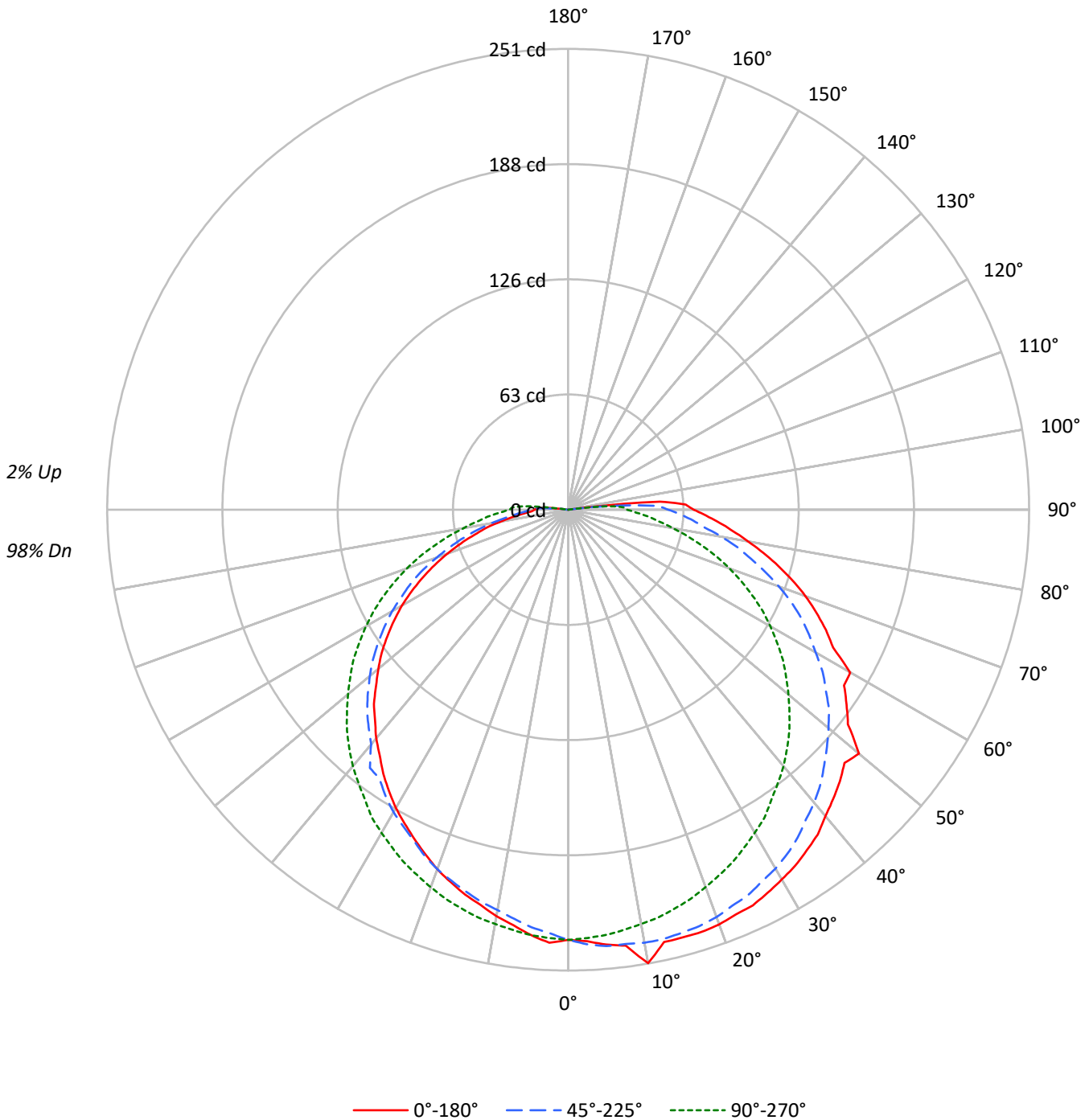
Input Watts (W): 19.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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
RCR																		
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	106	100	95	90	103	97	92	88	92	89	85	88	85	82	84	81	79	77
2	95	86	78	71	92	83	76	70	79	73	68	76	71	66	72	68	64	62
3	86	74	65	58	83	72	64	57	69	62	56	66	60	55	63	58	53	51
4	78	65	56	48	76	64	55	48	61	53	47	58	51	46	56	50	45	43
5	72	58	48	41	69	57	48	41	54	46	40	52	45	39	50	44	39	36
6	66	52	42	36	64	51	42	35	49	41	35	47	40	34	45	39	34	31
7	61	47	38	31	59	46	37	31	44	36	31	42	35	30	41	35	30	28
8	57	43	34	28	55	42	33	27	40	33	27	39	32	27	37	31	26	24
9	53	39	31	25	52	38	30	25	37	30	24	36	29	24	35	28	24	22
10	50	36	28	22	48	35	27	22	34	27	22	33	26	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13986	13986	13986
5°	13925	13620	13620
10°	14521	13265	13016
15°	13915	12968	12518
20°	13924	12673	12070
25°	13935	12412	11603
30°	13900	12143	11210
35°	13916	11845	10782
40°	13883	11622	10360
45°	13952	11358	9977
50°	14578	11038	9514
55°	13956	10765	9068
60°	14495	10391	8552
65°	13928	9960	7854
70°	13871	9422	7061
75°	13722	8708	6102
80°	13629	7939	5101
85°	14080	7481	4105



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.2	2.6
10°-20°	64.3	7.5
20°-30°	99.5	11.6
30°-40°	124.4	14.5
40°-50°	135.9	15.9
50°-60°	133.2	15.6
60°-70°	115.8	13.5
70°-80°	86.0	10.1
80°-90°	53.8	6.3
90°-100°	20.3	2.4
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	186.0	21.7
0°-40°	310.3	36.3
0°-60°	579.5	67.8
0°-90°	835.1	97.6
90°-120°	20.3	2.4
90°-150°	20.3	2.4
90°-180°	20.0	2.3
0°-180°	855.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	234	234	234	234	234	
5°	238	239	233	228	233	23
15°	241	239	225	215	217	69
25°	238	232	212	199	198	110
35°	226	218	193	179	176	142
45°	209	197	170	155	150	162
55°	185	171	143	126	120	167
65°	155	140	111	94	87	154
75°	118	103	75	59	53	125
85°	83	68	44	28	24	71
90°	68	54	32	21	18	38
95°	50	24	22	8	12	22
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	234.3	234.3	234.3	234.3	234.3	234.3	234.3	234.3	234.3
2.5°	235.2	236.9	236.9	236.1	233.5	234.3	230.9	231.7	236.1
5°	237.8	238.6	238.6	236.1	232.6	232.6	228.3	228.3	232.6
7.5°	239.5	240.4	238.6	236.1	230.9	230.0	224.8	224.8	228.3
10°	250.8	241.2	239.5	235.2	229.1	227.4	221.4	222.2	224.8
12.5°	241.2	241.2	239.5	234.3	227.4	224.8	218.8	217.9	220.5
15°	241.2	241.2	238.6	232.6	224.8	222.2	215.3	214.4	217.0
17.5°	241.2	241.2	237.8	230.9	222.2	218.8	211.8	211.0	212.7
20°	240.4	240.4	236.1	228.3	218.8	215.3	208.4	206.7	208.4
22.5°	238.6	238.6	233.5	225.7	215.3	211.0	204.1	202.3	203.2
25°	237.8	236.9	231.7	222.2	211.8	207.5	198.9	198.0	198.0
27.5°	235.2	234.3	228.3	219.6	207.5	202.3	194.5	192.8	192.8
30°	232.6	231.7	225.7	215.3	203.2	198.0	190.2	187.6	187.6
32.5°	230.0	229.1	222.2	211.8	198.9	192.8	185.0	182.4	181.6
35°	226.5	225.7	217.9	206.7	192.8	186.8	179.0	177.3	175.5
37.5°	223.1	221.4	212.7	201.5	187.6	181.6	177.3	171.2	168.6
40°	217.9	217.0	208.4	196.3	182.4	178.1	166.9	166.0	162.6
42.5°	213.6	211.8	203.2	191.1	176.4	168.6	160.8	158.2	155.6
45°	209.2	206.7	197.1	185.0	170.3	162.6	154.8	151.3	149.6
47.5°	204.1	204.9	191.1	179.0	163.4	155.6	147.9	144.4	141.8
50°	206.7	196.3	185.0	172.1	156.5	148.7	140.9	137.5	134.9
52.5°	192.0	189.4	179.0	165.1	149.6	141.8	134.0	130.6	128.0
55°	185.0	182.4	171.2	158.2	142.7	134.0	126.2	122.8	120.2
57.5°	178.1	175.5	164.3	151.3	134.9	126.2	118.5	115.0	112.4
60°	177.3	167.7	155.6	143.5	127.1	118.5	110.7	109.8	104.6
62.5°	162.6	160.0	147.9	134.9	119.3	109.8	102.0	98.6	96.0
65°	154.8	152.2	140.1	126.2	110.7	101.2	94.2	89.9	87.3
67.5°	146.1	143.5	131.4	117.6	102.0	92.5	85.6	82.1	78.7
70°	137.5	134.9	121.9	108.9	93.4	83.9	76.1	72.6	70.0
72.5°	128.0	125.4	112.4	99.4	84.7	74.4	67.4	64.0	61.4
75°	118.5	115.9	102.9	90.8	75.2	65.7	58.8	55.3	52.7
77.5°	108.9	106.4	94.2	81.3	66.6	57.1	50.2	46.7	45.8
80°	99.4	96.8	84.7	71.8	57.9	48.4	42.4	38.9	37.2
82.5°	90.8	88.2	75.2	64.0	50.2	40.6	34.6	32.0	30.3
85°	83.0	79.5	68.3	56.2	44.1	33.7	28.5	25.1	24.2
87.5°	75.2	71.8	61.4	49.3	37.2	28.5	23.3	20.8	19.9
90°	68.3	64.8	54.5	43.2	32.0	25.1	20.8	19.0	18.2
92.5°	64.0	59.7	48.4	37.2	30.3	23.3	17.3	16.4	17.3
95°	50.2	37.2	24.2	23.3	21.6	13.0	7.8	9.5	12.1
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)