

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: P130223

Luminaire Tested: **HL612ICAT - HLM6930 - HL6NFL - 71PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130223
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33476)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL612ICAT - HLM6930 - HL6NFL - 71PS
Description: HALO ALLSLOPE 6" 21W, Drop Opal Glass Lens, White Polymer Trim Ring
"Dead Front", Wet Location - Showerlight using 25 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: 792.5 lumens
Efficiency: N/A
Efficacy: 41.5 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

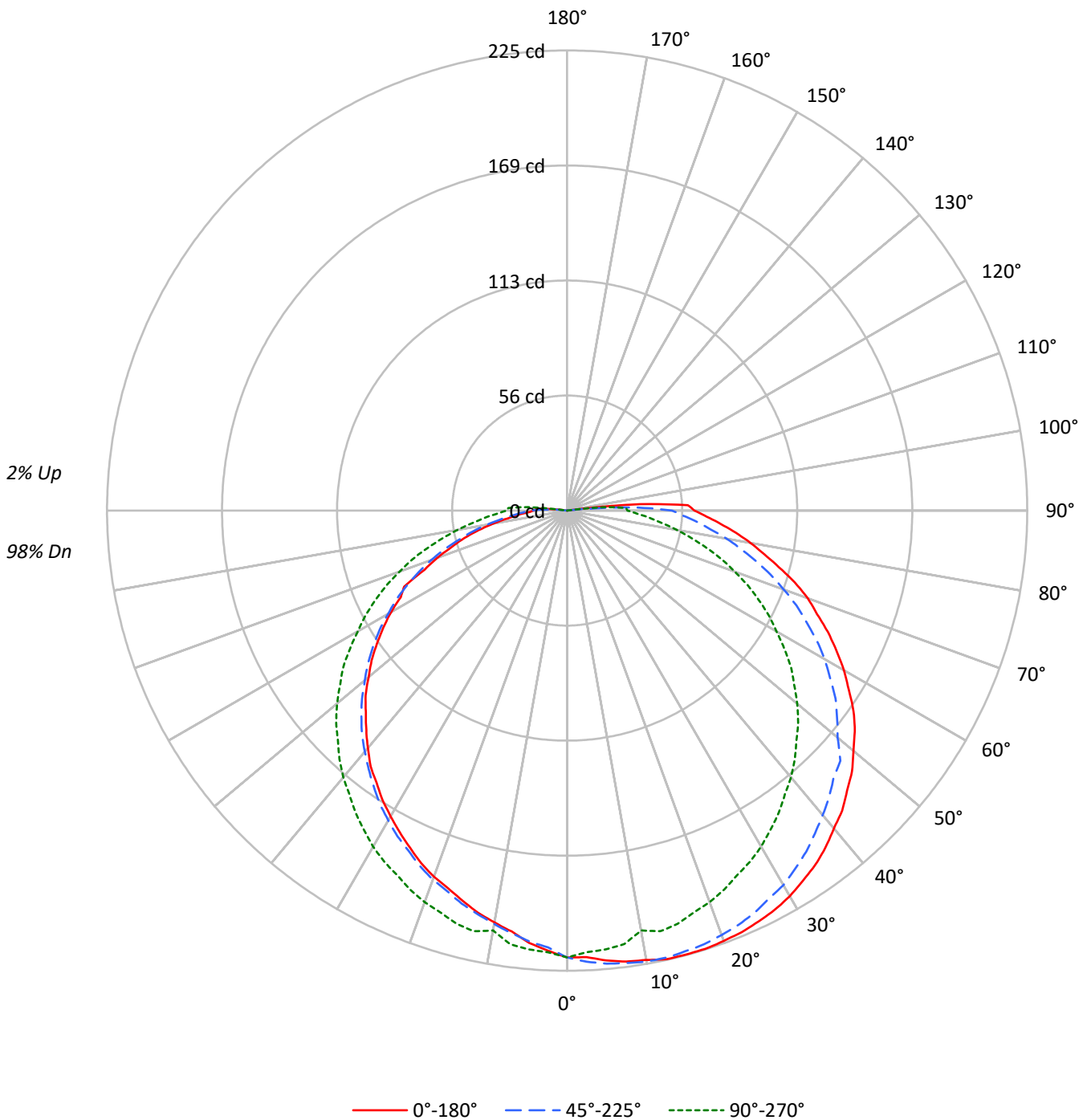
Input Watts (W): 19.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	110	110	110		105	105	105		100	100	100	98
1	106	100	95	90	103	97	93	88	93	89	85		88	85	82		84	82	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	73	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	52	46		56	50	45	43
5	72	58	48	41	70	57	48	41	54	46	40		52	45	40		50	44	39	37
6	66	52	42	36	64	51	42	35	49	41	35		47	40	34		45	39	34	32
7	61	47	38	31	59	46	37	31	44	36	31		43	36	30		41	35	30	28
8	57	43	34	28	55	42	33	28	40	33	27		39	32	27		38	31	27	25
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	28	22	34	27	22		33	27	22		32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13042	13042	13042
5°	12929	12613	12426
10°	12917	12066	11840
15°	12963	12063	11394
20°	12968	11798	11034
25°	12986	11527	10659
30°	13009	11336	10314
35°	12994	11083	9984
40°	12928	10851	9659
45°	12912	10578	9284
50°	12885	10361	8936
55°	12900	10086	8562
60°	12778	9663	8135
65°	12659	9303	7908
70°	12630	8786	6819
75°	12425	8187	6033
80°	12478	7459	5005
85°	12791	6854	4088



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.7	2.6
10°-20°	59.7	7.5
20°-30°	92.7	11.7
30°-40°	115.7	14.6
40°-50°	126.4	16.0
50°-60°	123.6	15.6
60°-70°	107.2	13.5
70°-80°	79.8	10.1
80°-90°	49.8	6.3
90°-100°	16.8	2.1
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°	173.1	21.8
0°-40°	288.9	36.5
0°-60°	539.0	68.0
0°-90°	775.7	97.9
90°-120°	16.8	2.1
90°-150°	16.8	2.1
90°-180°	17.0	2.1
0°-180°	792.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	218	218	218	218	218	
5°	221	222	215	212	212	21
15°	225	223	209	199	198	64
25°	222	217	197	184	182	102
35°	212	204	180	165	162	132
45°	194	184	159	142	139	150
55°	171	160	134	116	114	153
65°	141	129	103	86	88	139
75°	107	96	71	54	52	114
85°	75	64	40	26	24	65
90°	62	51	30	18	16	35
95°	36	9	19	4	10	18
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°	218.5	218.5	218.5	218.5	218.5	218.5	218.5	218.5	218.5
2.5°	218.5	223.1	220.8	217.7	216.1	220.0	213.8	216.9	215.4
5°	220.8	224.7	222.4	223.1	215.4	218.5	211.5	214.6	212.2
7.5°	222.4	226.2	223.1	217.7	213.8	215.4	208.4	210.7	207.6
10°	223.1	227.8	223.9	217.7	208.4	213.0	205.3	206.8	204.5
12.5°	224.7	228.6	223.9	212.2	210.7	210.7	202.1	203.7	201.4
15°	224.7	228.6	223.1	215.4	209.1	207.6	199.0	200.6	197.5
17.5°	224.7	223.9	222.4	213.8	206.0	204.5	195.1	196.7	193.6
20°	223.9	227.0	220.8	211.5	203.7	200.6	192.0	192.8	190.5
22.5°	223.1	226.2	219.2	209.1	200.6	196.7	188.1	188.1	186.6
25°	221.6	224.7	216.9	206.0	196.7	192.8	183.5	184.3	181.9
27.5°	220.0	222.4	213.8	202.9	193.6	188.9	179.6	179.6	177.3
30°	217.7	220.0	211.5	199.0	189.7	184.3	174.9	174.9	172.6
32.5°	214.6	216.1	207.6	195.1	185.0	179.6	170.3	170.3	167.9
35°	211.5	213.0	203.7	191.3	180.4	174.2	164.8	164.8	162.5
37.5°	207.6	209.1	199.0	186.6	174.9	168.7	159.4	159.4	157.8
40°	202.9	204.5	194.4	181.2	170.3	163.3	153.9	153.2	151.6
42.5°	199.0	199.8	189.7	176.5	164.8	157.0	148.5	146.9	145.4
45°	193.6	191.3	184.3	171.0	158.6	151.6	142.3	141.5	139.2
47.5°	188.9	189.7	181.2	164.8	153.2	144.6	136.1	135.3	133.7
50°	182.7	183.5	172.6	159.4	146.9	138.4	129.1	129.1	126.7
52.5°	177.3	176.5	166.4	151.6	139.9	131.4	122.8	122.1	120.5
55°	171.0	171.0	160.2	145.4	133.7	124.4	115.8	115.1	113.5
57.5°	163.3	163.3	152.4	138.4	126.0	117.4	108.8	108.1	106.5
60°	156.3	155.5	145.4	131.4	118.2	109.6	101.1	100.3	99.5
62.5°	148.5	147.7	137.6	123.6	111.2	101.8	94.1	92.5	91.7
65°	140.7	139.9	129.1	115.8	103.4	94.1	86.3	84.7	87.9
67.5°	132.2	131.4	121.3	108.1	95.6	86.3	78.5	77.0	75.4
70°	125.2	123.6	112.7	99.5	87.1	77.7	70.7	69.2	67.6
72.5°	116.6	115.1	104.2	91.0	79.3	70.0	63.0	60.6	59.1
75°	107.3	105.7	95.6	82.4	70.7	61.4	54.4	52.9	52.1
77.5°	98.7	97.2	87.1	74.6	62.2	52.9	47.4	45.1	44.3
80°	91.0	87.9	79.3	66.1	54.4	45.1	39.7	37.3	36.5
82.5°	83.2	80.1	70.7	58.3	46.6	37.3	32.7	30.3	29.5
85°	75.4	72.3	63.8	51.3	40.4	31.9	26.4	24.1	24.1
87.5°	68.4	65.3	56.8	45.1	34.2	26.4	21.8	19.4	18.7
90°	62.2	59.9	51.3	40.4	29.5	22.5	17.9	16.3	16.3
92.5°	59.1	52.1	34.2	32.7	28.8	20.2	12.4	14.8	15.5
95°	35.8	29.5	9.3	16.3	19.4	11.7	3.9	7.8	10.1
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)