

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: P130090

Luminaire Tested: **HL618TAT - HLM6940 - HL6NFL - 71PS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130090
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: HL618TAT - HLM6940 - HL6NFL - 71PS
Description: HALO ALLSLOPE 6" 30W, 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1202.3 lumens
Efficiency: N/A
Efficacy: 43.6 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

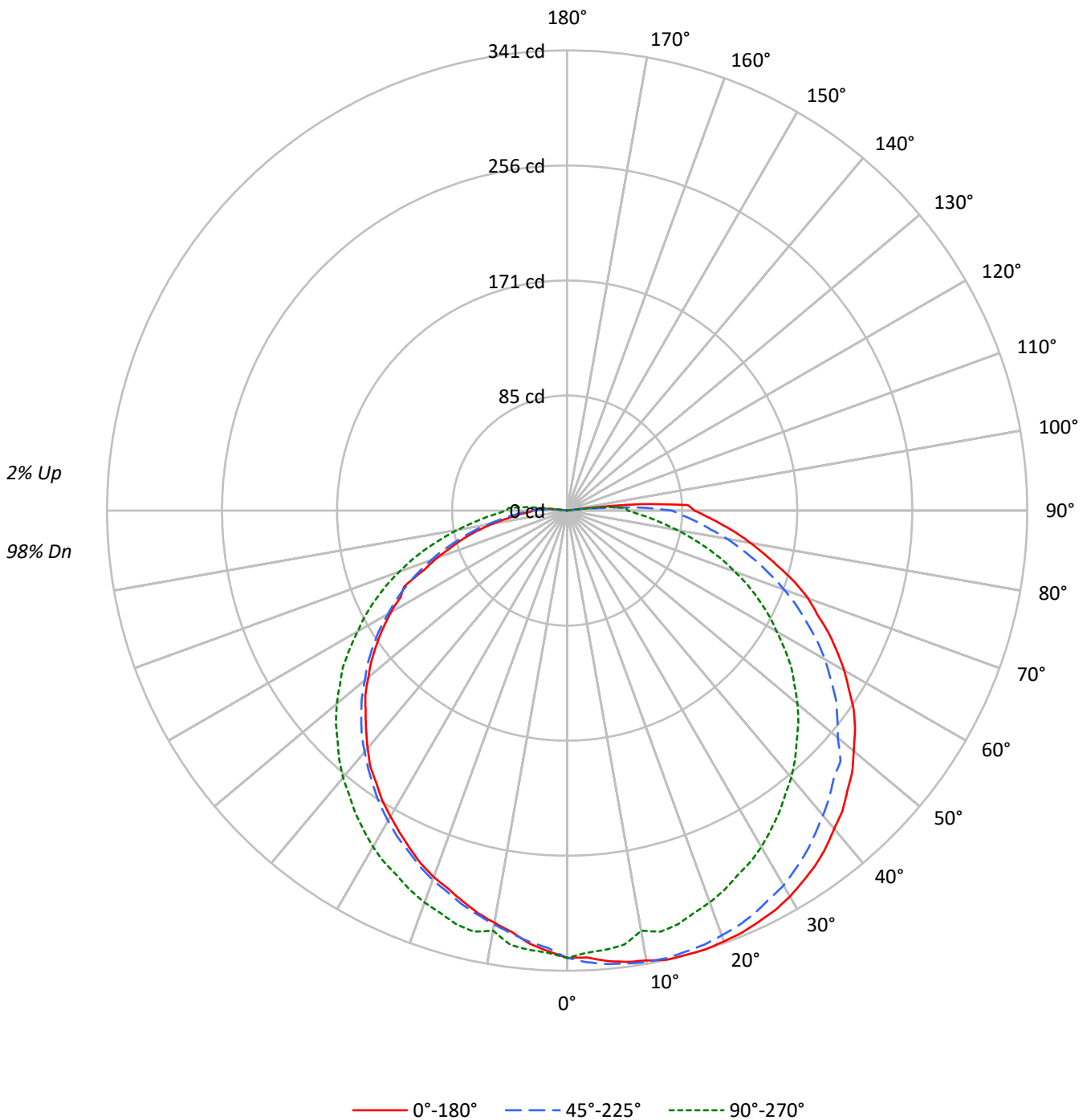
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	19781	19781	19781
5°	19617	19131	18855
10°	19599	18302	17960
15°	19666	18305	17284
20°	19675	17897	16739
25°	19696	17486	16174
30°	19732	17198	15644
35°	19709	16809	15144
40°	19611	16457	14654
45°	19588	16046	14079
50°	19550	15721	13563
55°	19577	15307	12991
60°	19384	14659	12345
65°	19209	14116	11993
70°	19157	13326	10350
75°	18851	12425	9148
80°	18922	11326	7596
85°	19407	10399	6209



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.4	2.6
10°-20°	90.6	7.5
20°-30°	140.6	11.7
30°-40°	175.6	14.6
40°-50°	191.8	16.0
50°-60°	187.6	15.6
60°-70°	162.6	13.5
70°-80°	121.0	10.1
80°-90°	75.5	6.3
90°-100°	25.5	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°	262.7	21.8
0°-40°	438.3	36.5
0°-60°	817.6	68.0
0°-90°	1176.7	97.9
90°-120°	25.5	2.1
90°-150°	25.5	2.1
90°-180°	26.0	2.2
0°-180°	1202.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	331	331	331	331	331	
5°	335	337	327	321	322	32
15°	341	338	317	302	300	97
25°	336	329	298	278	276	155
35°	321	309	274	250	246	201
45°	294	280	241	216	211	227
55°	260	243	203	176	172	231
65°	214	196	157	131	133	211
75°	163	145	107	83	79	173
85°	114	97	61	40	37	98
90°	94	78	45	27	25	52
95°	54	14	30	6	15	27
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°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4
2.5°	331.4	338.5	335.0	330.2	327.9	333.8	324.4	329.1	326.7
5°	335.0	340.9	337.3	338.5	326.7	331.4	320.8	325.5	322.0
7.5°	337.3	343.2	338.5	330.2	324.4	326.7	316.1	319.6	314.9
10°	338.5	345.6	339.7	330.2	316.1	323.2	311.4	313.7	310.2
12.5°	340.9	346.8	339.7	322.0	319.6	319.6	306.7	309.0	305.5
15°	340.9	346.8	338.5	326.7	317.3	314.9	301.9	304.3	299.6
17.5°	340.9	339.7	337.3	324.4	312.6	310.2	296.0	298.4	293.7
20°	339.7	344.4	335.0	320.8	309.0	304.3	291.3	292.5	289.0
22.5°	338.5	343.2	332.6	317.3	304.3	298.4	285.4	285.4	283.1
25°	336.1	340.9	329.1	312.6	298.4	292.5	278.4	279.5	276.0
27.5°	333.8	337.3	324.4	307.8	293.7	286.6	272.5	272.5	268.9
30°	330.2	333.8	320.8	301.9	287.8	279.5	265.4	265.4	261.8
32.5°	325.5	327.9	314.9	296.0	280.7	272.5	258.3	258.3	254.8
35°	320.8	323.2	309.0	290.1	273.6	264.2	250.0	250.0	246.5
37.5°	314.9	317.3	301.9	283.1	265.4	255.9	241.8	241.8	239.4
40°	307.8	310.2	294.9	274.8	258.3	247.7	233.5	232.4	230.0
42.5°	301.9	303.1	287.8	267.7	250.0	238.3	225.3	222.9	220.6
45°	293.7	290.1	279.5	259.5	240.6	230.0	215.8	214.7	211.1
47.5°	286.6	287.8	274.8	250.0	232.4	219.4	206.4	205.2	202.9
50°	277.2	278.4	261.8	241.8	222.9	209.9	195.8	195.8	192.3
52.5°	268.9	267.7	252.4	230.0	212.3	199.3	186.4	185.2	182.8
55°	259.5	259.5	243.0	220.6	202.9	188.7	175.7	174.6	172.2
57.5°	247.7	247.7	231.2	209.9	191.1	178.1	165.1	163.9	161.6
60°	237.1	235.9	220.6	199.3	179.3	166.3	153.3	152.1	151.0
62.5°	225.3	224.1	208.8	187.5	168.7	154.5	142.7	140.4	139.2
65°	213.5	212.3	195.8	175.7	156.9	142.7	130.9	128.6	133.3
67.5°	200.5	199.3	184.0	163.9	145.1	130.9	119.1	116.8	114.4
70°	189.9	187.5	171.0	151.0	132.1	117.9	107.3	105.0	102.6
72.5°	176.9	174.6	158.0	138.0	120.3	106.2	95.5	92.0	89.6
75°	162.8	160.4	145.1	125.0	107.3	93.2	82.6	80.2	79.0
77.5°	149.8	147.4	132.1	113.2	94.4	80.2	71.9	68.4	67.2
80°	138.0	133.3	120.3	100.3	82.6	68.4	60.2	56.6	55.4
82.5°	126.2	121.5	107.3	88.5	70.8	56.6	49.5	46.0	44.8
85°	114.4	109.7	96.7	77.8	61.3	48.4	40.1	36.6	36.6
87.5°	103.8	99.1	86.1	68.4	51.9	40.1	33.0	29.5	28.3
90°	94.4	90.8	77.8	61.3	44.8	34.2	27.1	24.8	24.8
92.5°	89.6	79.0	51.9	49.5	43.6	30.7	18.9	22.4	23.6
95°	54.3	44.8	14.2	24.8	29.5	17.7	5.9	11.8	15.3
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)