

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: P130114

Luminaire Tested: **HL618TAT - HLM6940 - HL6WFL - 455TBZ**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P130114  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33488)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL618TAT - HLM6940 - HL6WFL - 455TBZ  
Description: HALO ALLSLOPE 6" 30W, Tuscan Bronze Reflector, Tuscan Bronze Metal Trim Ring using 55 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: 2314.9 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 1.38 / 0.75 / 1.12  
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')  
CIE Type: Direct

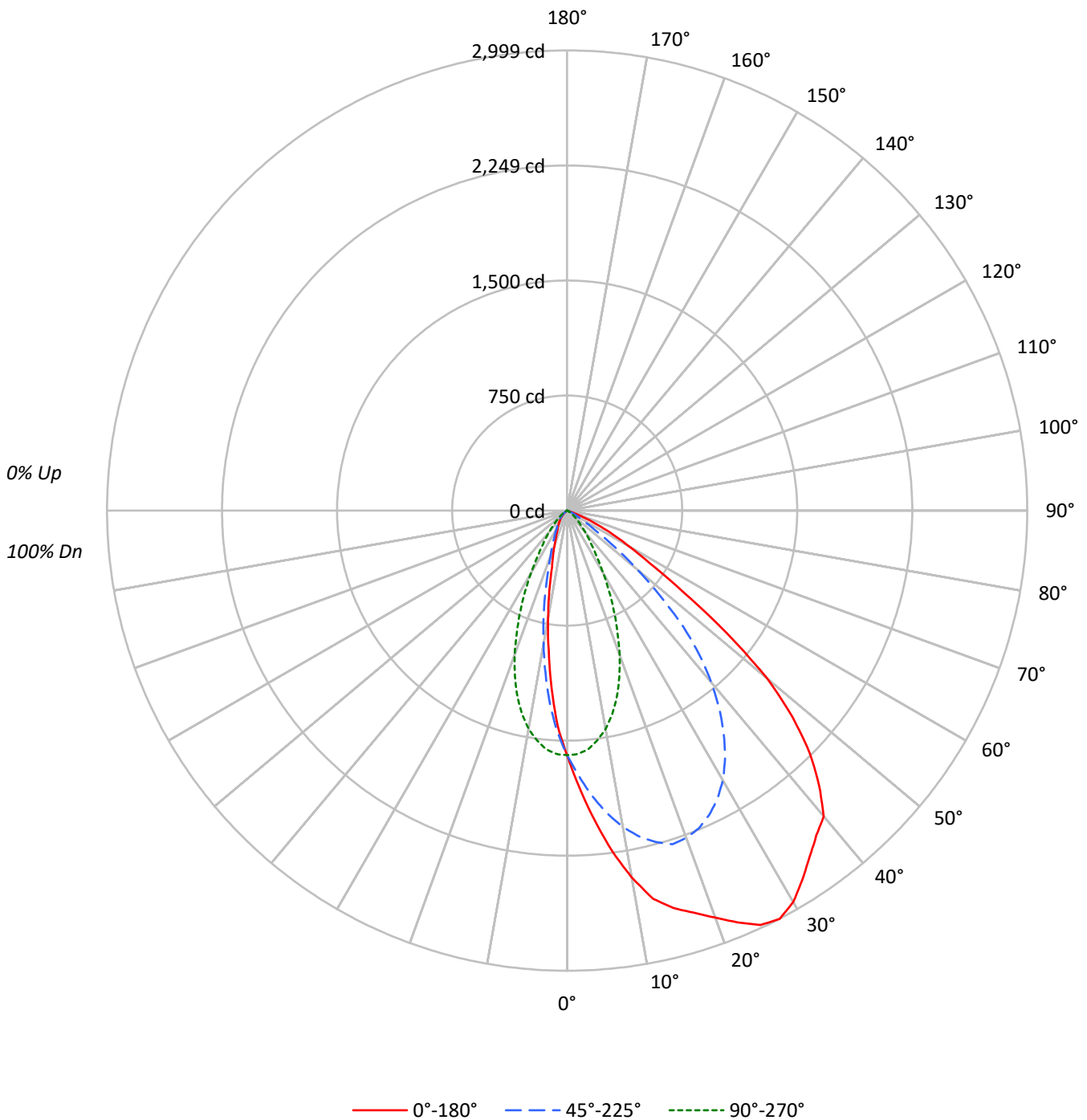
Input Watts (W): 27.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82					82			
3	98	90	84	80	96	89	83	79	86	81	78	84	80	76	81	78	75	73					73			
4	92	83	76	71	90	81	75	70	79	74	69	77	72	68	75	71	68	66					66			
5	86	76	68	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	56	54					54			
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49					49			
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45					45			
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41					41			
10	63	51	44	40	62	51	44	40	50	44	40	49	43	39	48	43	39	38					38			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	95171	95171	95171
5°	118315	91490	68114
10°	140543	83646	41415
15°	154722	72267	21922
20°	163496	57955	13710
25°	174641	42216	9071
30°	176099	28062	6956
35°	169261	17608	5345
40°	165747	11494	3995
45°	149174	7336	2728
50°	120032	4605	1538
55°	69118	2995	483
60°	37975	1676	106
65°	19803	810	0
70°	5034	262	0
75°	440	301	0
80°	0	357	0
85°	0	441	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.6	6.4
10°-20°	390.9	16.9
20°-30°	534.2	23.1
30°-40°	564.9	24.4
40°-50°	445.5	19.2
50°-60°	185.7	8.0
60°-70°	41.5	1.8
70°-80°	3.4	0.1
80°-90°	1.1	0.0
90°-100°	0.0	0.0
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°	1072.8	46.3
0°-40°	1637.7	70.7
0°-60°	2268.9	98.0
0°-90°	2314.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2314.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1594	1594	1594	1594	1594	
5°	2020	1867	1562	1269	1163	205
15°	2682	2236	1253	545	380	760
25°	2980	2189	720	205	155	1364
35°	2755	1780	287	106	87	1731
45°	2237	1068	110	55	41	1697
55°	916	224	40	15	6	874
65°	220	36	9	1	0	229
75°	4	3	3	1	0	12
85°	0	1	3	1	0	0
90°	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°	1594.4	1594.4	1594.4	1594.4	1594.4	1594.4	1594.4	1594.4	1594.4
2.5°	1801.7	1764.6	1730.0	1658.4	1588.0	1533.0	1444.7	1393.5	1406.3
5°	2020.5	1960.4	1866.9	1715.9	1562.4	1420.4	1269.4	1181.1	1163.2
7.5°	2235.5	2151.0	1989.8	1785.0	1509.9	1287.3	1076.1	950.7	921.3
10°	2427.4	2321.2	2093.4	1765.9	1444.7	1140.1	885.5	744.7	715.3
12.5°	2591.2	2464.5	2176.6	1763.3	1358.9	1005.8	706.3	563.0	533.6
15°	2682.0	2578.4	2235.5	1736.4	1252.7	831.7	545.1	414.6	380.0
17.5°	2747.3	2650.1	2280.3	1687.8	1131.2	685.9	410.8	314.8	300.7
20°	2822.8	2675.6	2270.0	1618.7	1000.6	543.8	314.8	253.4	236.7
22.5°	2904.7	2693.6	2241.9	1538.1	854.8	421.0	255.9	202.2	190.7
25°	2980.2	2697.4	2189.4	1433.2	720.4	327.6	204.7	162.5	154.8
27.5°	2999.4	2684.6	2119.0	1302.6	591.2	262.3	167.6	136.9	133.1
30°	2946.9	2653.9	2029.4	1167.0	469.6	213.7	136.9	119.0	116.4
32.5°	2852.2	2618.1	1915.6	1021.1	364.7	175.3	120.3	104.9	101.1
35°	2755.0	2551.5	1779.9	874.0	286.6	145.9	106.2	90.9	87.0
37.5°	2668.0	2435.1	1628.9	728.1	231.6	121.6	92.1	78.1	74.2
40°	2601.4	2290.5	1460.0	586.1	180.4	106.2	79.3	66.5	62.7
42.5°	2431.2	2096.0	1278.3	437.6	140.8	90.9	66.5	56.3	52.5
45°	2236.7	1886.1	1068.5	298.1	110.0	74.2	55.0	44.8	40.9
47.5°	1993.6	1636.6	818.9	202.2	85.7	58.9	42.2	33.3	32.0
50°	1701.9	1342.3	593.7	131.8	65.3	46.1	30.7	24.3	21.8
52.5°	1309.0	1019.8	386.4	87.0	51.2	34.5	23.0	15.4	12.8
55°	916.2	682.0	223.9	64.0	39.7	25.6	15.4	9.0	6.4
57.5°	636.0	449.1	135.6	48.6	29.4	17.9	9.0	3.8	2.6
60°	464.5	321.2	84.5	35.8	20.5	11.5	3.8	1.3	1.3
62.5°	334.0	216.3	55.0	26.9	14.1	6.4	2.6	1.3	1.3
65°	220.1	125.4	35.8	17.9	9.0	3.8	1.3	1.3	0.0
67.5°	121.6	62.7	21.8	10.2	5.1	2.6	1.3	1.3	0.0
70°	49.9	28.2	11.5	5.1	2.6	2.6	1.3	0.0	0.0
72.5°	14.1	10.2	5.1	2.6	2.6	2.6	1.3	0.0	0.0
75°	3.8	3.8	2.6	2.6	2.6	2.6	1.3	0.0	0.0
77.5°	1.3	1.3	1.3	2.6	2.6	2.6	1.3	0.0	0.0
80°	0.0	1.3	1.3	1.3	2.6	1.3	1.3	0.0	0.0
82.5°	0.0	1.3	1.3	2.6	2.6	2.6	1.3	0.0	0.0
85°	0.0	0.0	1.3	1.3	2.6	1.3	1.3	0.0	0.0
87.5°	0.0	0.0	1.3	1.3	2.6	1.3	1.3	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)