

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: P130249

Luminaire Tested: **HL612ICAT - HLM6940 - HL6WFL - 455TBZ**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P130249  
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: HL612ICAT - HLM6940 - HL6WFL - 455TBZ  
Description: HALO ALLSLOPE 6" 21W, 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: 1663.0 lumens  
Efficiency: N/A  
Efficacy: 87.1 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

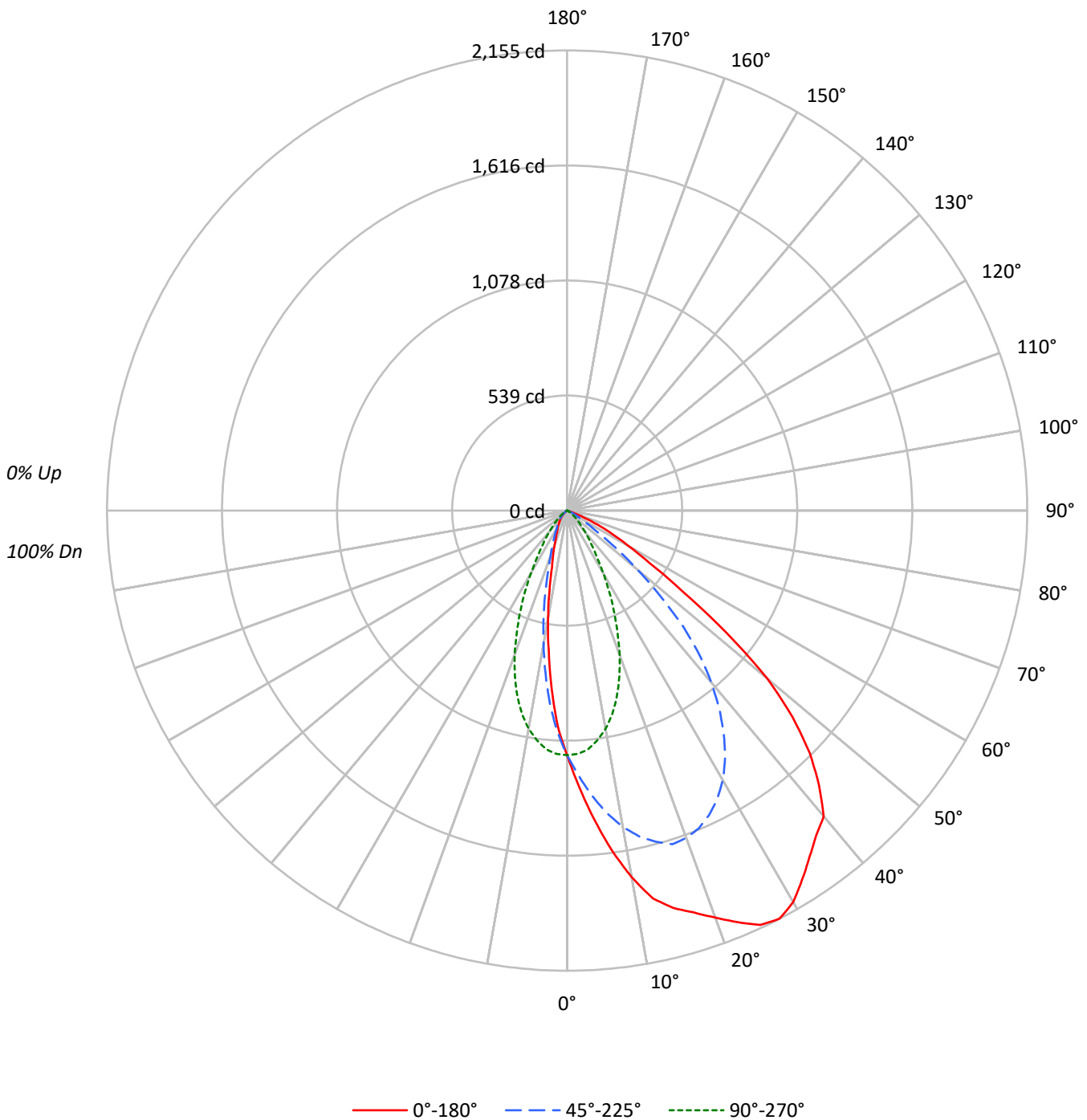
Input Watts (W): 19.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	68370	68370	68370
5°	85002	65731	48931
10°	100970	60093	29754
15°	111155	51920	15749
20°	117461	41639	9852
25°	125463	30332	6516
30°	126512	20162	5002
35°	121598	12650	3840
40°	119076	8257	2867
45°	107170	5275	1961
50°	86235	3308	1100
55°	49654	2150	347
60°	27282	1202	74
65°	14224	576	0
70°	3622	182	0
75°	324	208	0
80°	0	247	0
85°	0	305	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.0	6.4
10°-20°	280.9	16.9
20°-30°	383.8	23.1
30°-40°	405.9	24.4
40°-50°	320.1	19.2
50°-60°	133.4	8.0
60°-70°	29.8	1.8
70°-80°	2.4	0.1
80°-90°	0.8	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°	770.7	46.3
0°-40°	1176.6	70.8
0°-60°	1630.0	98.0
0°-90°	1663.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1663.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1145	1145	1145	1145	1145	
5°	1452	1341	1122	912	836	147
15°	1927	1606	900	392	273	546
25°	2141	1573	518	147	111	980
35°	1979	1279	206	76	62	1244
45°	1607	768	79	40	29	1219
55°	658	161	28	11	5	628
65°	158	26	6	1	0	164
75°	3	2	2	1	0	8
85°	0	1	2	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°	1145.4	1145.4	1145.4	1145.4	1145.4	1145.4	1145.4	1145.4	1145.4
2.5°	1294.4	1267.7	1242.9	1191.4	1140.8	1101.3	1037.9	1001.1	1010.3
5°	1451.6	1408.4	1341.3	1232.8	1122.5	1020.4	911.9	848.5	835.6
7.5°	1606.0	1545.3	1429.5	1282.4	1084.8	924.8	773.1	683.0	661.9
10°	1743.9	1667.6	1504.0	1268.6	1037.9	819.1	636.2	535.0	513.9
12.5°	1861.6	1770.6	1563.7	1266.8	976.3	722.6	507.5	404.5	383.3
15°	1926.8	1852.4	1606.0	1247.5	900.0	597.5	391.6	297.9	273.0
17.5°	1973.7	1903.9	1638.2	1212.5	812.7	492.7	295.1	226.1	216.0
20°	2028.0	1922.2	1630.8	1162.9	718.9	390.7	226.1	182.0	170.1
22.5°	2086.8	1935.1	1610.6	1105.0	614.1	302.4	183.9	145.2	137.0
25°	2141.0	1937.9	1572.9	1029.6	517.6	235.3	147.1	116.8	111.2
27.5°	2154.8	1928.7	1522.4	935.8	424.7	188.5	120.4	98.4	95.6
30°	2117.1	1906.6	1458.0	838.4	337.4	153.5	98.4	85.5	83.7
32.5°	2049.1	1880.9	1376.2	733.6	262.0	125.9	86.4	75.4	72.6
35°	1979.2	1833.1	1278.7	627.9	205.9	104.8	76.3	65.3	62.5
37.5°	1916.7	1749.4	1170.3	523.1	166.4	87.3	66.2	56.1	53.3
40°	1868.9	1645.5	1048.9	421.0	129.6	76.3	57.0	47.8	45.0
42.5°	1746.7	1505.8	918.4	314.4	101.1	65.3	47.8	40.4	37.7
45°	1606.9	1355.0	767.6	214.2	79.1	53.3	39.5	32.2	29.4
47.5°	1432.3	1175.8	588.3	145.2	61.6	42.3	30.3	23.9	23.0
50°	1222.7	964.3	426.6	94.7	46.9	33.1	22.1	17.5	15.6
52.5°	940.4	732.7	277.6	62.5	36.8	24.8	16.5	11.0	9.2
55°	658.2	490.0	160.9	46.0	28.5	18.4	11.0	6.4	4.6
57.5°	456.9	322.7	97.4	34.9	21.1	12.9	6.4	2.8	1.8
60°	333.7	230.7	60.7	25.7	14.7	8.3	2.8	0.9	0.9
62.5°	239.9	155.4	39.5	19.3	10.1	4.6	1.8	0.9	0.9
65°	158.1	90.1	25.7	12.9	6.4	2.8	0.9	0.9	0.0
67.5°	87.3	45.0	15.6	7.4	3.7	1.8	0.9	0.9	0.0
70°	35.9	20.2	8.3	3.7	1.8	1.8	0.9	0.0	0.0
72.5°	10.1	7.4	3.7	1.8	1.8	1.8	0.9	0.0	0.0
75°	2.8	2.8	1.8	1.8	1.8	1.8	0.9	0.0	0.0
77.5°	0.9	0.9	0.9	1.8	1.8	1.8	0.9	0.0	0.0
80°	0.0	0.9	0.9	0.9	1.8	0.9	0.9	0.0	0.0
82.5°	0.0	0.9	0.9	1.8	1.8	1.8	0.9	0.0	0.0
85°	0.0	0.0	0.9	0.9	1.8	0.9	0.9	0.0	0.0
87.5°	0.0	0.0	0.9	0.9	1.8	0.9	0.9	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)