

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 COMMERCIAL

Report Number: P593357

Luminaire Tested: **HC650D010-HM64560850-61WWWB**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593357  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC650D010-HM64560850-61WWWB  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5437.3 lumens  
Efficiency: N/A  
Efficacy: 113.3 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.09 / 1.17  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

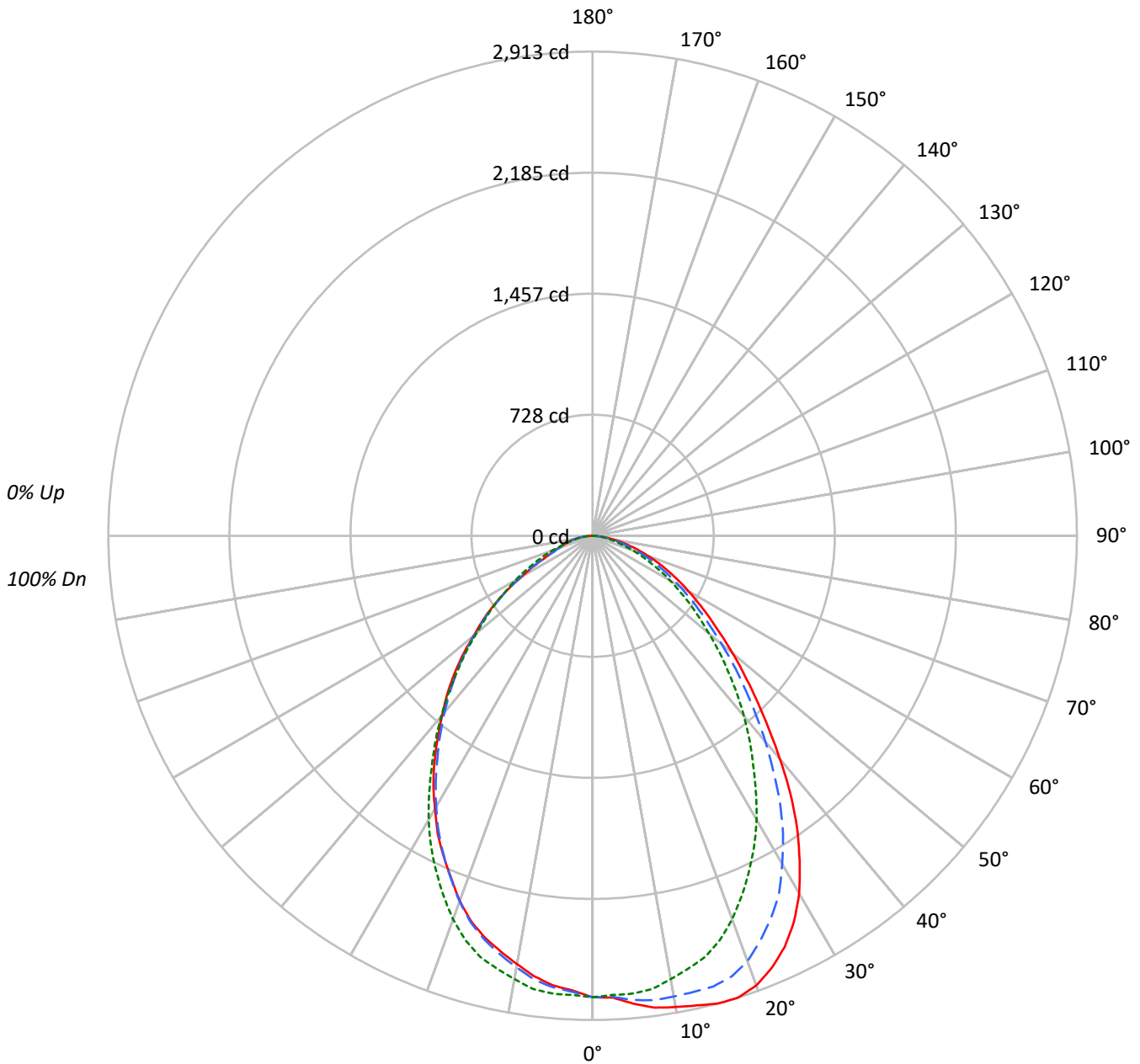
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58																			
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	37	33	31																			

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

	0°	90°	180°
0°	152208	152208	152208
5°	155503	152162	149449
10°	160256	150754	145689
15°	165330	148752	142078
20°	167950	143168	136308
25°	165185	134675	128475
30°	157271	124855	120044
35°	143416	112705	110925
40°	125406	101247	100703
45°	107918	89095	91157
50°	93814	77635	79255
55°	81928	68155	68872
60°	72768	59063	54064
65°	64936	49694	41327
70°	57141	40744	34653
75°	49013	32153	32936
80°	39525	27560	32327
85°	26229	23839	28619



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	262.9	4.8
10°-20°	748.4	13.8
20°-30°	1068.3	19.6
30°-40°	1119.0	20.6
40°-50°	942.2	17.3
50°-60°	670.6	12.3
60°-70°	392.5	7.2
70°-80°	185.7	3.4
80°-90°	47.8	0.9
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°	2079.5	38.2
0°-40°	3198.6	58.8
0°-60°	4811.3	88.5
0°-90°	5437.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5437.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2776	2776	2776	2776	2776	
5°	2826	2803	2765	2727	2716	272
15°	2913	2807	2621	2515	2503	822
25°	2731	2538	2226	2120	2124	1250
35°	2143	1965	1684	1627	1658	1331
45°	1392	1290	1149	1153	1176	1081
55°	857	785	713	713	721	773
65°	501	444	383	322	319	499
75°	231	193	152	148	156	248
85°	42	34	38	46	46	54
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°	2776.5	2776.5	2776.5	2776.5	2776.5	2776.5	2776.5	2776.5	2776.5
2.5°	2780.3	2780.3	2776.5	2772.6	2765.1	2753.7	2746.2	2738.5	2738.5
5°	2825.8	2818.2	2803.0	2784.1	2765.1	2742.3	2727.2	2715.8	2715.8
7.5°	2863.7	2848.6	2818.2	2784.1	2750.0	2719.6	2693.0	2677.9	2674.0
10°	2878.9	2859.9	2814.4	2761.3	2708.2	2666.5	2636.1	2617.2	2617.2
12.5°	2894.0	2871.2	2810.7	2734.7	2666.5	2609.5	2579.2	2564.1	2560.3
15°	2913.1	2882.7	2806.8	2712.0	2621.0	2556.5	2514.7	2503.4	2503.4
17.5°	2913.1	2875.1	2780.3	2662.7	2549.0	2476.8	2438.9	2427.5	2431.3
20°	2878.9	2837.1	2723.4	2579.2	2454.1	2378.2	2340.3	2332.7	2336.5
22.5°	2814.4	2765.1	2636.1	2480.6	2344.0	2264.4	2230.3	2230.3	2226.5
25°	2730.9	2677.9	2537.5	2374.4	2226.5	2146.8	2120.2	2124.0	2124.0
27.5°	2621.0	2567.8	2427.5	2253.0	2105.1	2025.4	2006.5	2014.1	2017.9
30°	2484.5	2427.5	2279.6	2108.9	1972.4	1892.7	1881.3	1892.7	1896.4
32.5°	2317.5	2275.8	2131.7	1957.2	1828.2	1759.9	1756.1	1767.5	1782.7
35°	2143.0	2097.6	1964.8	1805.5	1684.1	1627.2	1627.2	1646.2	1657.5
37.5°	1953.4	1907.9	1786.5	1653.8	1551.4	1498.2	1505.8	1524.8	1528.6
40°	1752.4	1718.2	1615.8	1502.0	1414.8	1373.0	1384.5	1403.4	1407.2
42.5°	1562.7	1532.3	1449.0	1346.5	1282.1	1251.7	1266.9	1289.7	1297.2
45°	1392.0	1357.9	1289.7	1202.4	1149.2	1134.1	1153.1	1168.2	1175.8
47.5°	1236.5	1206.2	1149.2	1069.6	1031.7	1024.2	1043.1	1050.6	1058.3
50°	1100.0	1069.6	1012.7	940.7	910.3	910.3	925.5	933.1	929.3
52.5°	967.2	940.7	887.5	826.8	807.9	807.9	819.3	823.0	830.7
55°	857.2	830.7	785.1	728.2	713.1	705.5	713.1	713.1	720.6
57.5°	754.8	732.1	690.3	637.3	618.3	610.7	606.9	603.1	610.7
60°	663.7	644.8	599.2	553.8	538.7	519.6	504.5	489.3	493.1
62.5°	580.3	561.3	519.6	474.2	458.9	432.4	413.5	394.5	402.0
65°	500.6	481.7	443.8	405.9	383.1	352.8	322.4	311.1	318.6
67.5°	428.6	413.5	375.6	337.5	318.6	284.5	254.2	254.2	257.9
70°	356.5	341.4	311.1	276.9	254.2	223.8	212.5	216.2	216.2
72.5°	292.1	280.7	250.4	220.0	197.2	178.2	178.2	182.1	185.9
75°	231.4	223.8	193.4	166.9	151.8	140.3	148.0	151.8	155.5
77.5°	178.2	166.9	144.1	125.2	113.8	117.6	125.2	129.0	132.7
80°	125.2	121.4	102.4	91.1	87.3	91.1	98.6	102.4	102.4
82.5°	79.6	75.8	64.5	60.7	60.7	64.5	72.0	72.0	72.0
85°	41.7	37.9	34.1	34.1	37.9	41.7	45.5	45.5	45.5
87.5°	15.1	11.3	15.1	15.1	19.0	19.0	19.0	19.0	19.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)