

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: P593320

Luminaire Tested: **HC645D010-HM64560850-61WWW**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593320  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2105-241-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC645D010-HM64560850-61WWW  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4962.1 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1.06 / 1.14  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

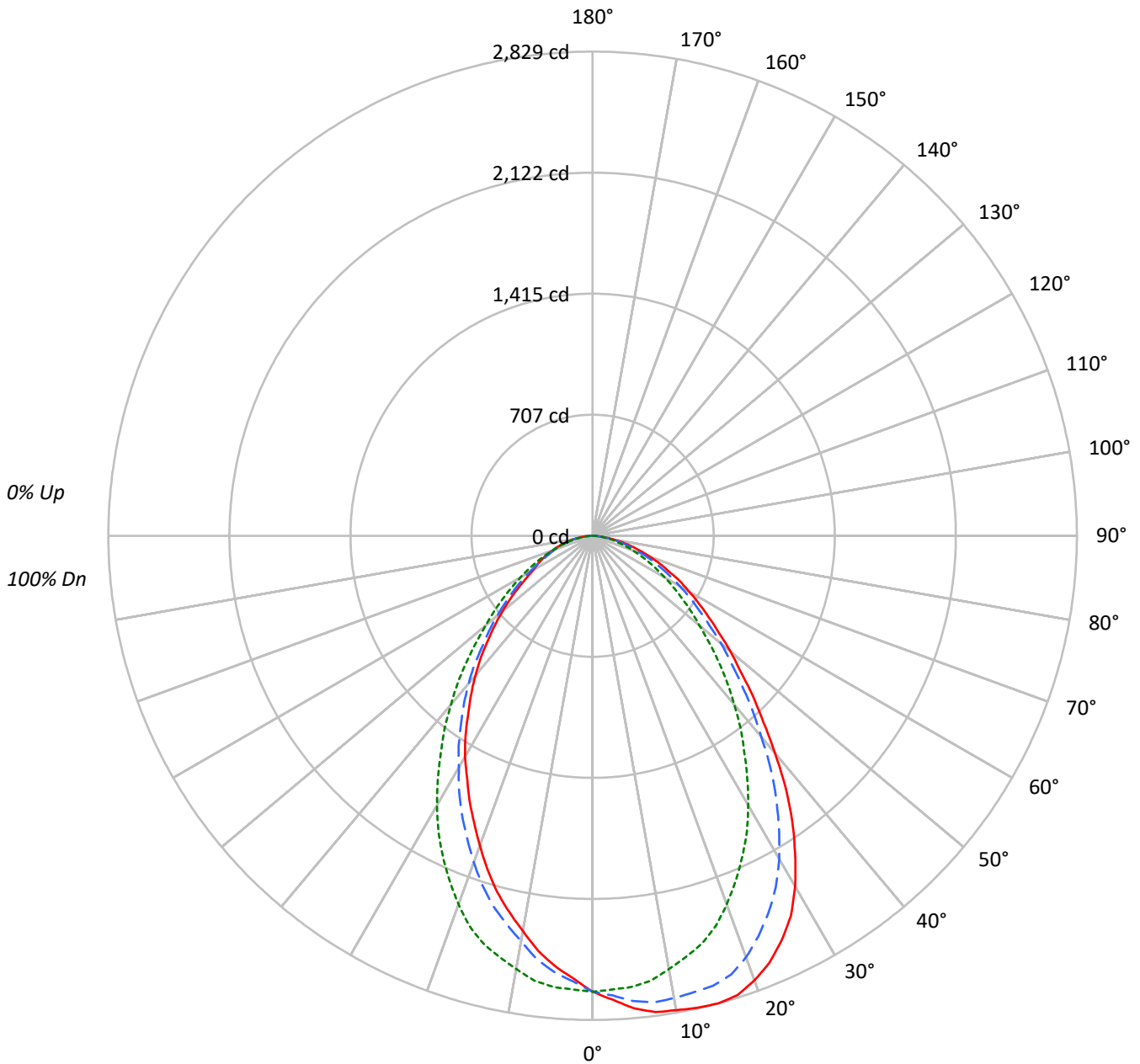
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76																			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	53	51																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	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	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32																			

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

	0°	90°	180°
0°	146030	146030	146030
5°	152503	145603	138889
10°	156666	143095	130520
15°	160540	139989	122288
20°	161259	133653	112313
25°	157872	125130	103010
30°	149789	115062	94413
35°	136041	103410	84691
40°	118536	92108	76200
45°	102561	80605	66984
50°	89583	69405	58702
55°	79147	60987	50369
60°	71146	53461	43637
65°	63703	46503	42313
70°	56885	39654	39654
75°	49373	33423	37215
80°	39620	28286	33969
85°	27047	24782	29311



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	250.4	5.0
10°-20°	695.9	14.0
20°-30°	969.9	19.5
30°-40°	999.3	20.1
40°-50°	828.2	16.7
50°-60°	595.2	12.0
60°-70°	379.0	7.6
70°-80°	194.7	3.9
80°-90°	49.5	1.0
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°	1916.2	38.6
0°-40°	2915.5	58.8
0°-60°	4338.9	87.4
0°-90°	4962.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4962.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2664	2664	2664	2664	2664	
5°	2771	2728	2646	2560	2524	266
15°	2829	2721	2467	2241	2155	797
25°	2610	2431	2069	1803	1703	1196
35°	2033	1868	1545	1341	1266	1263
45°	1323	1230	1040	907	864	1024
55°	828	760	638	566	527	746
65°	491	437	358	312	326	492
75°	233	201	158	165	176	248
85°	43	39	39	43	47	55
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°	2663.8	2663.8	2663.8	2663.8	2663.8	2663.8	2663.8	2663.8	2663.8
2.5°	2714.0	2703.3	2688.9	2674.6	2653.1	2628.0	2606.4	2599.3	2588.6
5°	2771.3	2757.0	2728.4	2692.5	2645.9	2599.3	2559.8	2534.7	2523.9
7.5°	2807.2	2789.3	2749.9	2688.9	2620.8	2552.7	2495.3	2459.4	2445.1
10°	2814.4	2796.4	2742.7	2660.2	2570.6	2477.4	2405.7	2362.7	2344.7
12.5°	2825.2	2800.1	2731.9	2635.1	2520.4	2412.9	2323.2	2269.4	2251.6
15°	2828.7	2800.1	2721.1	2602.9	2466.6	2337.6	2240.8	2176.3	2154.7
17.5°	2814.4	2782.1	2688.9	2545.5	2391.4	2255.1	2140.4	2072.2	2043.6
20°	2764.2	2728.4	2620.8	2459.4	2291.0	2147.5	2029.3	1957.5	1925.2
22.5°	2699.7	2653.1	2531.2	2359.0	2183.4	2032.8	1914.5	1842.8	1810.5
25°	2610.0	2567.0	2430.8	2247.9	2068.7	1910.9	1803.4	1728.1	1703.0
27.5°	2506.1	2455.9	2316.1	2133.2	1950.3	1792.6	1688.7	1620.5	1588.2
30°	2366.3	2319.6	2179.8	1996.9	1817.7	1670.7	1563.1	1505.8	1491.5
32.5°	2201.4	2161.8	2025.7	1853.6	1681.5	1545.2	1455.6	1394.7	1380.3
35°	2032.8	1986.2	1867.9	1706.6	1545.2	1423.3	1340.9	1287.1	1265.5
37.5°	1849.9	1807.0	1706.6	1563.1	1419.8	1305.0	1233.3	1186.7	1165.1
40°	1656.4	1624.1	1530.9	1416.2	1287.1	1186.7	1125.7	1086.3	1064.8
42.5°	1477.2	1444.9	1380.3	1272.7	1165.1	1075.5	1021.8	985.9	968.0
45°	1322.9	1294.3	1229.8	1136.5	1039.7	964.4	907.1	882.0	864.0
47.5°	1168.8	1154.5	1097.1	1011.0	921.4	856.9	817.5	788.7	774.4
50°	1050.4	1032.6	978.8	889.1	813.8	763.6	727.8	702.7	688.3
52.5°	928.5	910.6	860.4	785.2	724.2	677.6	641.7	620.3	605.9
55°	828.1	813.8	760.1	692.0	638.1	598.7	566.4	541.3	527.0
57.5°	735.0	720.6	670.5	605.9	559.3	523.4	494.8	473.3	455.4
60°	648.9	638.1	588.0	527.0	487.6	451.7	426.6	408.7	398.0
62.5°	573.6	552.1	509.1	455.4	419.5	390.8	365.7	354.9	362.1
65°	491.1	480.5	437.4	390.8	358.5	329.8	311.9	319.1	326.2
67.5°	423.1	408.7	372.9	329.8	301.1	279.6	268.9	283.3	286.8
70°	354.9	340.6	308.4	272.5	247.4	233.1	233.1	243.7	247.4
72.5°	290.4	279.6	251.0	222.3	204.3	193.5	200.8	208.0	211.5
75°	233.1	222.3	200.8	175.7	157.8	157.8	164.9	172.1	175.7
77.5°	179.2	172.1	150.6	132.7	125.5	125.5	132.7	136.2	139.8
80°	125.5	118.4	107.6	96.8	89.6	96.8	103.9	103.9	107.6
82.5°	82.5	78.8	71.7	64.5	64.5	68.2	71.7	75.3	75.3
85°	43.0	43.0	39.4	35.9	39.4	43.0	43.0	46.6	46.6
87.5°	14.3	14.3	14.3	14.3	17.9	17.9	17.9	17.9	17.9
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)