

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: P582592

Luminaire Tested: **HC645D010-HM64560830-61WWW**

Issue Date: 9/16/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P582592  
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-HM64560830-61WWW  
Description: HALO COMMERCIAL 6" ROUND, NEW CONSTRUCTION FRAME, WITH 6" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4560.2 lumens  
Efficiency: N/A  
Efficacy: 103.6 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

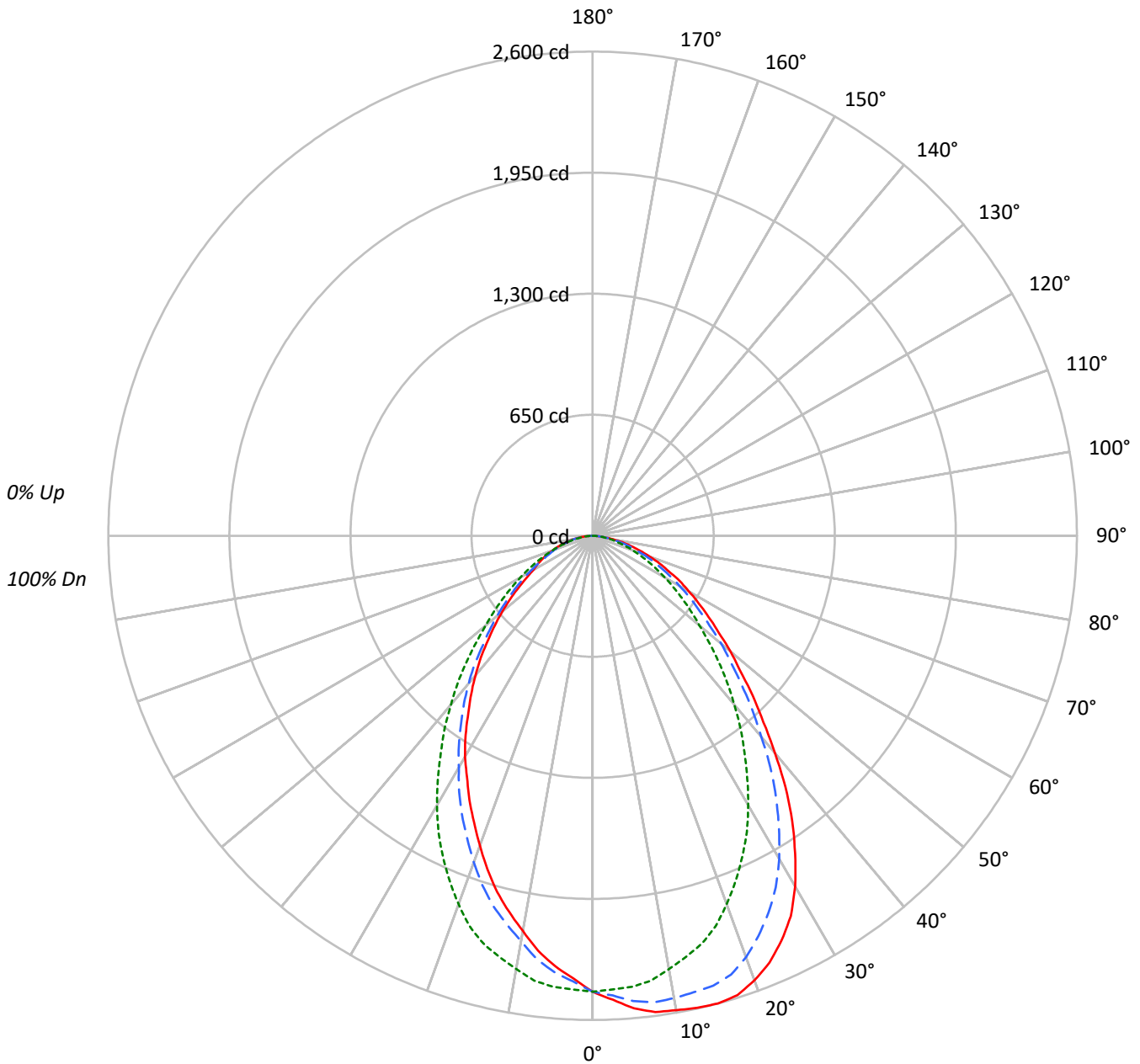
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	134211	134211	134211
5°	140155	133810	127647
10°	143980	131505	119954
15°	147543	128656	112390
20°	148203	122826	103224
25°	145091	114999	94669
30°	137654	105744	86767
35°	125026	95044	77838
40°	108933	84651	70031
45°	94258	74077	61565
50°	82334	63785	53951
55°	72752	56055	46287
60°	65389	49130	40095
65°	58554	42741	38889
70°	52284	36432	36432
75°	45369	30712	34186
80°	36400	25982	31222
85°	24845	22769	26921



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	230.1	5.0
10°-20°	639.6	14.0
20°-30°	891.3	19.5
30°-40°	918.4	20.1
40°-50°	761.1	16.7
50°-60°	547.0	12.0
60°-70°	348.3	7.6
70°-80°	178.9	3.9
80°-90°	45.5	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°	1761.0	38.6
0°-40°	2679.4	58.8
0°-60°	3987.5	87.4
0°-90°	4560.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4560.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2448	2448	2448	2448	2448	
5°	2547	2507	2432	2353	2320	244
15°	2600	2501	2267	2059	1980	733
25°	2399	2234	1901	1657	1565	1099
35°	1868	1717	1420	1232	1163	1160
45°	1216	1130	956	834	794	941
55°	761	698	586	521	484	686
65°	451	402	330	287	300	452
75°	214	184	145	152	161	228
85°	40	36	36	40	43	51
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°	2448.2	2448.2	2448.2	2448.2	2448.2	2448.2	2448.2	2448.2	2448.2
2.5°	2494.3	2484.4	2471.2	2458.0	2438.2	2415.2	2395.4	2388.8	2379.0
5°	2546.9	2533.8	2507.4	2474.4	2431.6	2388.8	2352.6	2329.5	2319.6
7.5°	2579.9	2563.5	2527.2	2471.2	2408.5	2346.0	2293.2	2260.3	2247.1
10°	2586.5	2570.0	2520.5	2444.8	2362.4	2276.8	2210.9	2171.3	2154.9
12.5°	2596.4	2573.3	2510.7	2421.8	2316.3	2217.4	2135.1	2085.7	2069.2
15°	2599.7	2573.3	2500.8	2392.1	2266.9	2148.2	2059.3	2000.0	1980.3
17.5°	2586.5	2556.8	2471.2	2339.4	2197.7	2072.5	1967.0	1904.5	1878.1
20°	2540.4	2507.4	2408.5	2260.3	2105.4	1973.7	1865.0	1799.0	1769.4
22.5°	2481.0	2438.2	2326.2	2168.1	2006.7	1868.2	1759.5	1693.6	1663.9
25°	2398.7	2359.1	2234.0	2065.9	1901.2	1756.2	1657.3	1588.1	1565.1
27.5°	2303.2	2257.0	2128.5	1960.4	1792.5	1647.5	1551.9	1489.2	1459.7
30°	2174.6	2131.8	2003.2	1835.3	1670.5	1535.5	1436.6	1383.9	1370.7
32.5°	2023.1	1986.8	1861.7	1703.4	1545.3	1420.2	1337.7	1281.7	1268.5
35°	1868.2	1825.4	1716.7	1568.4	1420.2	1308.1	1232.2	1182.9	1163.1
37.5°	1700.1	1660.6	1568.4	1436.6	1304.7	1199.4	1133.5	1090.7	1070.8
40°	1522.2	1492.6	1406.9	1301.4	1182.9	1090.7	1034.6	998.3	978.6
42.5°	1357.5	1327.8	1268.5	1169.7	1070.8	988.5	939.1	906.1	889.6
45°	1215.8	1189.4	1130.2	1044.4	955.5	886.3	833.7	810.5	794.1
47.5°	1074.1	1061.0	1008.2	929.1	846.8	787.4	751.2	724.9	711.7
50°	965.4	949.0	899.5	817.1	747.9	701.8	668.8	645.9	632.6
52.5°	853.4	836.9	790.7	721.6	665.6	622.7	589.8	570.0	556.8
55°	761.2	747.9	698.5	635.9	586.5	550.3	520.6	497.6	484.3
57.5°	675.4	662.3	616.2	556.8	514.0	481.0	454.7	434.9	418.4
60°	596.4	586.5	540.4	484.3	448.1	415.1	392.1	375.6	365.7
62.5°	527.1	507.4	467.9	418.4	385.4	359.2	336.1	326.2	332.8
65°	451.4	441.5	402.0	359.2	329.5	303.1	286.7	293.2	299.8
67.5°	388.8	375.6	342.6	303.1	276.8	257.0	247.2	260.3	263.6
70°	326.2	313.1	283.4	250.4	227.3	214.2	214.2	224.0	227.3
72.5°	266.9	257.0	230.6	204.3	187.8	177.9	184.5	191.1	194.4
75°	214.2	204.3	184.5	161.4	145.0	145.0	151.6	158.1	161.4
77.5°	164.7	158.1	138.4	121.9	115.3	115.3	121.9	125.2	128.4
80°	115.3	108.7	98.9	88.9	82.3	88.9	95.6	95.6	98.9
82.5°	75.8	72.5	65.9	59.4	59.4	62.6	65.9	69.2	69.2
85°	39.5	39.5	36.2	33.0	36.2	39.5	39.5	42.8	42.8
87.5°	13.1	13.1	13.1	13.1	16.4	16.4	16.4	16.4	16.4
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)