

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: P584685

Luminaire Tested: **HC845D010-HM82555835-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584685  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC845D010-HM82555835-81RWWH  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4717.9 lumens  
Efficiency: N/A  
Efficacy: 107.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

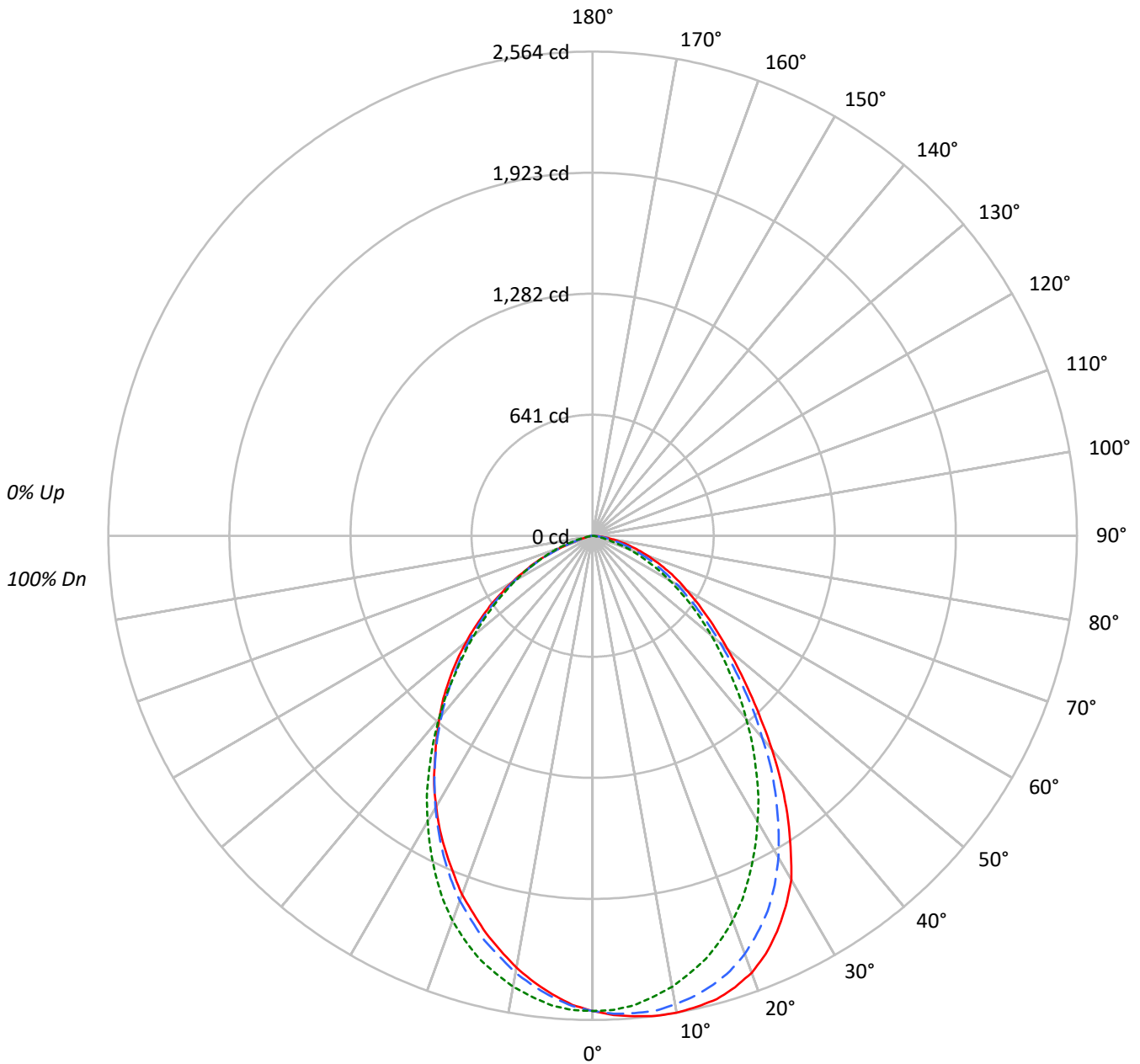
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			100
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67			67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59			59
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47			47
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	36	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	77606	77606	77606
5°	79063	77265	75472
10°	80297	75919	72716
15°	81103	74029	69566
20°	80795	71173	66356
25°	78667	67062	62655
30°	74917	62169	59011
35°	67654	56741	54817
40°	59439	50929	50788
45°	51306	44765	46692
50°	44663	39261	41875
55°	39595	34096	36483
60°	35332	28813	30281
65°	31849	23393	23889
70°	28292	17527	14137
75°	24377	10163	6088
80°	18770	3623	1811
85°	12065	1203	1203



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.2	5.0
10°-20°	657.7	13.9
20°-30°	930.2	19.7
30°-40°	980.2	20.8
40°-50°	833.0	17.7
50°-60°	599.9	12.7
60°-70°	346.0	7.3
70°-80°	118.4	2.5
80°-90°	16.3	0.3
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°	1824.1	38.7
0°-40°	2804.3	59.4
0°-60°	4237.2	89.8
0°-90°	4717.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4717.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2517	2517	2517	2517	2517	
5°	2554	2537	2496	2452	2438	244
15°	2540	2462	2319	2217	2179	715
25°	2312	2193	1971	1869	1842	1060
35°	1797	1692	1507	1453	1456	1119
45°	1176	1122	1026	1033	1071	914
55°	736	679	634	658	679	663
65°	436	375	321	314	327	434
75°	205	153	85	54	51	216
85°	34	20	3	3	3	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7
2.5°	2540.5	2543.9	2540.5	2540.5	2537.1	2533.7	2530.3	2526.9	2520.1	2513.3	2513.3
5°	2554.2	2561.0	2554.2	2554.2	2543.9	2537.1	2530.3	2520.1	2506.5	2496.1	2496.1
7.5°	2564.4	2564.4	2564.4	2554.2	2547.3	2537.1	2520.1	2503.1	2485.9	2468.9	2462.1
10°	2564.4	2564.4	2561.0	2547.3	2540.5	2520.1	2503.1	2479.1	2455.3	2431.4	2424.6
12.5°	2554.2	2557.6	2550.8	2537.1	2520.1	2496.1	2472.3	2441.6	2414.4	2387.1	2373.4
15°	2540.5	2537.1	2530.3	2513.3	2492.7	2462.1	2438.2	2404.1	2366.6	2332.5	2318.9
17.5°	2506.5	2506.5	2496.1	2479.1	2451.8	2417.8	2380.3	2342.7	2301.8	2264.4	2247.2
20°	2462.1	2462.1	2448.4	2428.0	2400.7	2356.3	2315.5	2271.2	2223.4	2185.9	2168.9
22.5°	2397.3	2400.7	2383.7	2359.8	2329.1	2278.0	2237.0	2182.5	2134.7	2090.4	2076.8
25°	2312.1	2318.9	2301.8	2278.0	2237.0	2192.7	2141.5	2090.4	2035.9	1991.5	1971.0
27.5°	2213.1	2216.6	2199.5	2175.7	2134.7	2087.0	2035.9	1981.3	1930.2	1882.4	1861.9
30°	2104.0	2090.4	2083.6	2052.9	2008.5	1967.6	1909.6	1865.3	1810.8	1769.8	1746.0
32.5°	1950.6	1957.4	1937.0	1913.0	1878.9	1831.2	1783.4	1732.3	1681.1	1650.5	1633.4
35°	1797.2	1804.0	1793.8	1769.8	1732.3	1691.5	1643.7	1606.2	1561.8	1524.3	1507.3
37.5°	1636.8	1636.8	1630.0	1616.4	1589.1	1551.6	1503.9	1466.4	1428.8	1398.1	1387.9
40°	1476.6	1469.8	1466.4	1456.2	1432.2	1398.1	1367.5	1336.8	1299.2	1278.8	1265.2
42.5°	1319.7	1319.7	1312.9	1302.6	1278.8	1261.7	1231.1	1196.9	1169.7	1149.2	1149.2
45°	1176.5	1179.9	1169.7	1162.8	1149.2	1122.0	1094.6	1070.7	1046.9	1033.3	1026.5
47.5°	1050.3	1050.3	1040.1	1033.3	1019.6	995.8	971.8	951.4	934.4	924.1	920.7
50°	931.0	931.0	931.0	913.9	896.9	879.8	862.7	838.9	828.6	821.8	818.4
52.5°	828.6	825.2	825.2	811.6	794.6	774.1	757.1	736.5	726.3	719.5	722.9
55°	736.5	736.5	733.1	716.1	699.1	678.6	661.6	644.6	637.6	630.8	634.2
56°	699.1	699.1	695.7	682.0	661.6	644.6	624.0	607.0	596.8	600.2	600.2
57°	671.8	665.0	665.0	648.0	630.8	607.0	589.9	572.9	566.1	562.7	562.7
58°	637.6	634.2	630.8	613.8	596.8	576.3	559.3	542.2	532.0	532.0	528.6
59°	603.6	603.6	596.8	583.1	566.1	545.6	528.6	511.5	501.3	497.8	497.8
60°	572.9	576.3	566.1	552.5	538.8	514.9	494.4	480.8	470.6	467.2	467.2
61°	545.6	545.6	538.8	521.8	504.7	487.6	467.2	450.1	443.3	436.5	436.5
62°	521.8	514.9	511.5	494.4	477.4	457.0	439.9	422.9	412.7	405.9	409.3
63°	491.0	487.6	480.8	467.2	450.1	429.7	409.3	395.5	385.3	375.1	378.5
64°	467.2	463.8	453.6	439.9	422.9	402.3	381.9	368.3	361.5	351.2	347.8
65°	436.5	433.1	429.7	412.7	395.5	375.1	358.1	344.4	334.2	327.4	320.6
66°	409.3	412.7	405.9	392.1	371.7	354.6	330.8	317.2	310.4	300.1	293.2
67°	385.3	385.3	378.5	364.9	344.4	327.4	310.4	293.2	283.0	272.8	269.4
67.5°	371.7	371.7	364.9	347.8	334.2	313.8	296.7	283.0	269.4	262.6	255.7
68°	358.1	358.1	354.6	341.0	324.0	303.5	286.4	269.4	255.7	245.5	242.1
69°	334.2	337.6	330.8	317.2	300.1	279.6	262.6	248.9	235.3	225.1	218.3
70°	313.8	310.4	303.5	289.8	272.8	259.1	242.1	225.1	211.4	197.8	194.4
71°	286.4	286.4	279.6	269.4	252.3	235.3	218.3	204.6	191.0	174.0	170.6
72°	266.0	266.0	259.1	245.5	231.9	214.9	197.8	180.8	170.6	153.4	146.6
72.5°	252.3	255.7	248.9	235.3	221.7	201.2	187.6	174.0	156.8	143.2	136.4
73°	245.5	242.1	238.7	225.1	208.0	194.4	177.4	163.6	146.6	133.0	126.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	153.4	153.4	150.0	136.4	122.8	109.1	95.5	81.9	68.2	54.5	47.7
80°	105.7	109.1	102.3	95.5	85.3	71.7	57.9	47.7	34.1	27.3	20.4
82.5°	68.2	68.2	64.7	57.9	51.1	40.9	34.1	23.9	17.0	13.6	10.2
85°	34.1	37.5	34.1	30.7	23.9	20.4	17.0	10.2	6.8	3.4	3.4
87.5°	13.6	13.6	13.6	10.2	10.2	6.8	3.4	3.4	3.4	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7	2516.7
2.5°	2506.5	2506.5	2499.5	2496.1	2492.7	2489.3	2485.9	2482.5	2482.5	2485.9
5°	2485.9	2479.1	2465.5	2462.1	2451.8	2448.4	2441.6	2438.2	2441.6	2438.2
7.5°	2455.3	2441.6	2424.6	2417.8	2404.1	2397.3	2387.1	2387.1	2380.3	2383.7
10°	2414.4	2393.9	2373.4	2359.8	2349.5	2339.3	2332.5	2325.7	2322.3	2322.3
12.5°	2363.2	2339.3	2318.9	2298.4	2281.4	2274.6	2260.8	2260.8	2254.0	2250.6
15°	2305.2	2274.6	2250.6	2230.2	2216.6	2202.9	2192.7	2185.9	2179.1	2179.1
17.5°	2230.2	2202.9	2179.1	2155.2	2134.7	2124.5	2114.2	2104.0	2104.0	2097.2
20°	2148.3	2117.6	2097.2	2073.4	2056.3	2039.3	2025.7	2025.7	2018.7	2022.1
22.5°	2056.3	2018.7	1998.3	1981.3	1964.2	1950.6	1937.0	1937.0	1933.6	1930.2
25°	1954.0	1923.3	1899.4	1878.9	1868.7	1855.1	1851.7	1844.9	1841.5	1841.5
27.5°	1844.9	1821.0	1790.3	1780.0	1766.4	1759.6	1759.6	1756.2	1749.4	1752.8
30°	1728.9	1701.7	1684.5	1677.7	1664.1	1664.1	1660.7	1653.9	1653.9	1657.3
32.5°	1616.4	1589.1	1575.5	1572.1	1558.4	1558.4	1555.0	1558.4	1558.4	1561.8
35°	1493.6	1469.8	1466.4	1456.2	1452.6	1452.6	1452.6	1459.6	1466.4	1456.2
37.5°	1377.7	1360.7	1350.4	1347.0	1350.4	1350.4	1353.8	1364.1	1360.7	1357.2
40°	1258.3	1244.7	1237.9	1237.9	1244.7	1251.5	1251.5	1261.7	1265.2	1261.7
42.5°	1139.0	1128.8	1128.8	1132.2	1139.0	1142.4	1152.6	1162.8	1166.2	1169.7
45°	1026.5	1026.5	1026.5	1029.9	1033.3	1040.1	1053.7	1063.9	1067.3	1070.7
47.5°	917.3	913.9	924.1	927.5	937.8	941.2	951.4	965.0	968.4	971.8
50°	815.0	821.8	825.2	835.5	842.3	842.3	855.9	862.7	872.9	872.9
52.5°	719.5	729.7	733.1	743.4	746.8	750.3	757.1	767.3	774.1	774.1
55°	634.2	637.6	644.6	648.0	658.2	661.6	668.4	671.8	682.0	678.6
56°	596.8	603.6	607.0	613.8	620.6	624.0	630.8	634.2	641.0	644.6
57°	562.7	566.1	576.3	579.7	586.5	586.5	589.9	600.2	600.2	603.6
58°	528.6	535.4	538.8	542.2	549.1	552.5	559.3	562.7	566.1	562.7
59°	497.8	501.3	504.7	504.7	511.5	511.5	521.8	528.6	532.0	532.0
60°	467.2	467.2	470.6	474.0	480.8	484.2	484.2	491.0	491.0	491.0
61°	436.5	436.5	439.9	443.3	446.7	446.7	453.6	453.6	457.0	460.4
62°	409.3	405.9	405.9	409.3	409.3	416.1	419.5	422.9	426.3	422.9
63°	378.5	375.1	375.1	375.1	375.1	381.9	381.9	385.3	392.1	388.7
64°	344.4	344.4	344.4	344.4	347.8	347.8	354.6	358.1	361.5	364.9
65°	320.6	313.8	310.4	310.4	313.8	317.2	320.6	324.0	327.4	327.4
66°	293.2	286.4	283.0	283.0	283.0	283.0	289.8	289.8	296.7	296.7
67°	262.6	255.7	252.3	248.9	248.9	248.9	259.1	255.7	255.7	255.7
67.5°	252.3	242.1	238.7	235.3	231.9	238.7	235.3	238.7	238.7	235.3
68°	238.7	231.9	225.1	218.3	218.3	218.3	221.7	225.1	221.7	218.3
69°	211.4	208.0	197.8	191.0	187.6	191.0	187.6	191.0	187.6	191.0
70°	187.6	177.4	167.2	163.6	160.2	160.2	160.2	156.8	160.2	156.8
71°	163.6	153.4	143.2	136.4	133.0	133.0	129.6	133.0	129.6	133.0
72°	139.8	129.6	115.9	109.1	109.1	109.1	109.1	105.7	109.1	105.7
72.5°	129.6	115.9	105.7	98.9	95.5	95.5	95.5	95.5	92.1	95.5
73°	119.4	105.7	92.1	88.7	88.7	88.7	85.3	81.9	85.3	85.3





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	40.9	30.7	27.3	27.3	27.3	27.3	27.3	27.3	23.9	23.9
80°	17.0	13.6	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
82.5°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





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







74°	221.7	221.7	214.9	204.6	187.6	170.6	156.8	143.2	126.2	109.1	102.3
75°	204.6	201.2	194.4	184.2	170.6	153.4	139.8	122.8	109.1	92.1	85.3







74°	98.9	81.9	75.1	68.2	68.2	68.2	64.7	64.7	64.7	68.2
75°	78.5	64.7	57.9	51.1	54.5	51.1	54.5	51.1	51.1	51.1



(END OF REPORT)