

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: P584821

Luminaire Tested: **HC850D010-HM82555835-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584821  
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: HC850D010-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: 4969.4 lumens  
Efficiency: N/A  
Efficacy: 103.5 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

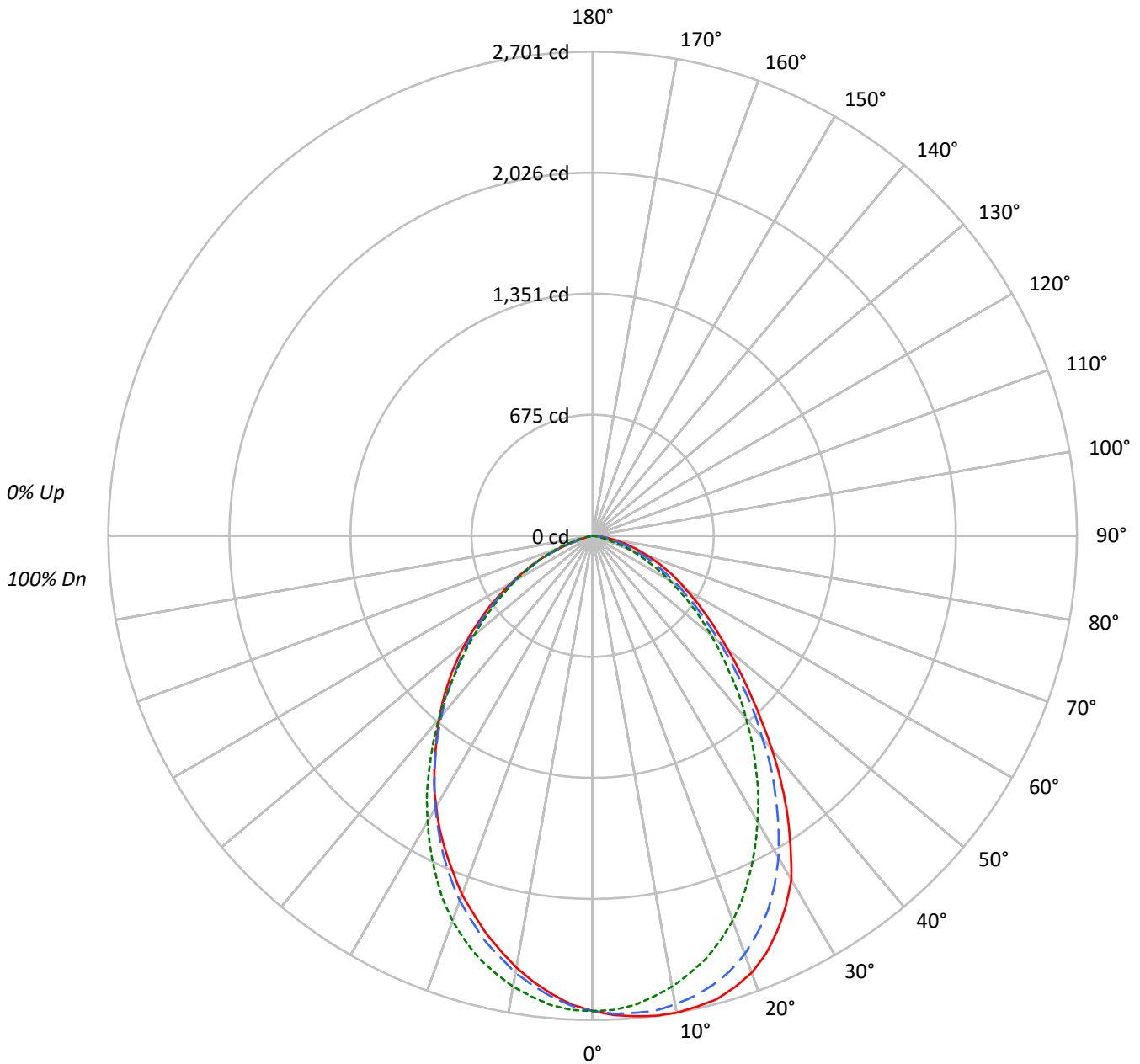
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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°	81741	81741	81741
5°	83276	81388	79496
10°	84577	79965	76592
15°	85429	77975	73272
20°	85100	74967	69897
25°	82859	70637	65993
30°	78912	65484	62159
35°	71260	59764	57735
40°	62603	53638	53497
45°	54045	47150	49187
50°	47042	41353	44111
55°	41714	35918	38429
60°	37213	30343	31903
65°	33549	24633	25166
70°	29798	18456	14894
75°	25687	10699	6422
80°	19782	3818	1918
85°	12702	1274	1274



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	248.8	5.0
10°-20°	692.7	13.9
20°-30°	979.8	19.7
30°-40°	1032.4	20.8
40°-50°	877.4	17.7
50°-60°	631.8	12.7
60°-70°	364.5	7.3
70°-80°	124.7	2.5
80°-90°	17.1	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°	1921.4	38.7
0°-40°	2953.8	59.4
0°-60°	4463.1	89.8
0°-90°	4969.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4969.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2651	2651	2651	2651	2651	
5°	2690	2672	2629	2583	2568	257
15°	2676	2593	2442	2335	2295	753
25°	2435	2310	2076	1968	1940	1117
35°	1893	1782	1588	1530	1534	1179
45°	1239	1182	1081	1088	1128	963
55°	776	715	668	693	715	698
65°	460	395	338	330	345	457
75°	216	162	90	58	54	227
85°	36	22	4	4	4	48
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°	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8
2.5°	2676.0	2679.6	2676.0	2676.0	2672.3	2668.8	2665.2	2661.6	2654.4	2647.2	2647.2
5°	2690.3	2697.5	2690.3	2690.3	2679.6	2672.3	2665.2	2654.4	2640.1	2629.3	2629.3
7.5°	2701.1	2701.1	2701.1	2690.3	2683.1	2672.3	2654.4	2636.4	2611.3	2586.2	2553.8
10°	2701.1	2701.1	2697.5	2683.1	2676.0	2654.4	2636.4	2611.3	2586.2	2561.0	2553.8
12.5°	2690.3	2694.0	2686.7	2672.3	2654.4	2629.3	2604.2	2571.8	2543.0	2514.3	2499.9
15°	2676.0	2672.3	2665.2	2647.2	2625.7	2593.3	2568.2	2532.3	2492.8	2456.9	2442.5
17.5°	2640.1	2640.1	2629.3	2611.3	2582.6	2546.7	2507.2	2467.6	2424.5	2385.0	2367.1
20°	2593.3	2593.3	2578.9	2557.4	2528.7	2482.0	2438.9	2392.2	2341.9	2302.5	2284.5
22.5°	2525.2	2528.7	2510.8	2485.6	2453.3	2399.4	2356.2	2298.8	2248.6	2201.8	2187.4
25°	2435.3	2442.5	2424.5	2399.4	2356.2	2309.6	2255.7	2201.8	2144.4	2097.7	2076.1
27.5°	2331.1	2334.7	2316.7	2291.6	2248.6	2198.2	2144.4	2086.9	2033.0	1982.7	1961.2
30°	2216.2	2201.8	2194.7	2162.3	2115.7	2072.5	2011.5	1964.7	1907.3	1864.2	1839.1
32.5°	2054.5	2061.8	2040.1	2015.0	1979.1	1928.8	1878.6	1824.7	1770.8	1738.4	1720.5
35°	1893.0	1900.1	1889.3	1864.2	1824.7	1781.6	1731.3	1691.8	1645.1	1605.6	1587.6
37.5°	1724.2	1724.2	1716.9	1702.5	1673.8	1634.3	1584.0	1544.5	1505.0	1472.7	1462.0
40°	1555.2	1548.1	1544.5	1533.7	1508.6	1472.7	1440.3	1408.1	1368.5	1346.9	1332.5
42.5°	1390.1	1390.1	1382.9	1372.1	1346.9	1329.0	1296.7	1260.8	1232.0	1210.5	1210.5
45°	1239.3	1242.8	1232.0	1224.9	1210.5	1181.7	1153.0	1127.9	1102.7	1088.3	1081.2
47.5°	1106.3	1106.3	1095.5	1088.3	1074.0	1048.8	1023.7	1002.2	984.2	973.4	969.8
50°	980.6	980.6	980.6	962.7	944.7	926.7	908.8	883.6	872.8	865.6	862.0
52.5°	872.8	869.3	869.3	854.9	836.9	815.4	797.4	775.9	765.1	757.9	761.5
55°	775.9	775.9	772.2	754.4	736.4	714.8	696.8	678.8	671.7	664.5	668.1
56°	736.4	736.4	732.7	718.4	696.8	678.8	657.3	639.3	628.6	632.2	632.2
57°	707.6	700.5	700.5	682.5	664.5	639.3	621.4	603.4	596.3	592.7	592.7
58°	671.7	668.1	664.5	646.6	628.6	607.1	589.1	571.1	560.3	560.3	556.8
59°	635.8	635.8	628.6	614.2	596.3	574.7	556.8	538.8	528.0	524.4	524.4
60°	603.4	607.1	596.3	581.9	567.5	542.4	520.8	506.4	495.7	492.0	492.0
61°	574.7	574.7	567.5	549.5	531.5	513.7	492.0	474.1	466.9	459.8	459.8
62°	549.5	542.4	538.8	520.8	502.9	481.3	463.4	445.4	434.6	427.4	431.0
63°	517.3	513.7	506.4	492.0	474.1	452.6	431.0	416.6	405.9	395.1	398.7
64°	492.0	488.5	477.8	463.4	445.4	423.9	402.3	387.9	380.7	370.0	366.4
65°	459.8	456.1	452.6	434.6	416.6	395.1	377.1	362.7	352.0	344.9	337.6
66°	431.0	434.6	427.4	413.1	391.5	373.6	348.4	334.1	326.9	316.1	308.8
67°	405.9	405.9	398.7	384.4	362.7	344.9	326.9	308.8	298.1	287.3	283.7
67.5°	391.5	391.5	384.4	366.4	352.0	330.5	312.5	298.1	283.7	276.6	269.3
68°	377.1	377.1	373.6	359.2	341.2	319.7	301.7	283.7	269.3	258.6	255.1
69°	352.0	355.6	348.4	334.1	316.1	294.6	276.6	262.2	247.8	237.1	229.8
70°	330.5	326.9	319.7	305.3	287.3	273.0	255.1	237.1	222.7	208.3	204.7
71°	301.7	301.7	294.6	283.7	265.8	247.8	229.8	215.6	201.2	183.2	179.6
72°	280.2	280.2	273.0	258.6	244.2	226.3	208.3	190.3	179.6	161.7	154.4
72.5°	265.8	269.3	262.2	247.8	233.4	211.9	197.6	183.2	165.2	150.9	143.7
73°	258.6	255.1	251.5	237.1	219.1	204.7	186.8	172.4	154.4	140.0	132.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	161.7	161.7	158.0	143.7	129.3	114.9	100.5	86.2	71.9	57.5	50.3
80°	111.4	114.9	107.8	100.5	89.8	75.4	61.0	50.3	35.9	28.8	21.5
82.5°	71.9	71.9	68.3	61.0	53.9	43.1	35.9	25.1	18.0	14.4	10.8
85°	35.9	39.5	35.9	32.4	25.1	21.5	18.0	10.8	7.1	3.6	3.6
87.5°	14.4	14.4	14.4	10.8	10.8	7.1	3.6	3.6	3.6	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°	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8	2650.8
2.5°	2640.1	2640.1	2632.8	2629.3	2625.7	2622.1	2618.4	2614.9	2614.9	2618.4
5°	2618.4	2611.3	2596.9	2593.3	2582.6	2578.9	2571.8	2568.2	2571.8	2568.2
7.5°	2586.2	2571.8	2553.8	2546.7	2532.3	2525.2	2514.3	2514.3	2507.2	2510.8
10°	2543.0	2521.5	2499.9	2485.6	2474.8	2464.0	2456.9	2449.6	2446.1	2446.1
12.5°	2489.2	2464.0	2442.5	2420.9	2403.0	2395.7	2381.4	2381.4	2374.2	2370.6
15°	2428.1	2395.7	2370.6	2349.1	2334.7	2320.3	2309.6	2302.5	2295.2	2295.2
17.5°	2349.1	2320.3	2295.2	2270.1	2248.6	2237.7	2226.9	2216.2	2216.2	2209.1
20°	2263.0	2230.6	2209.1	2183.9	2165.9	2147.9	2133.5	2133.5	2126.4	2130.0
22.5°	2165.9	2126.4	2104.9	2086.9	2068.9	2054.5	2040.1	2040.1	2036.6	2033.0
25°	2058.1	2025.9	2000.6	1979.1	1968.4	1954.0	1950.4	1943.2	1939.6	1939.6
27.5°	1943.2	1918.1	1885.7	1875.0	1860.6	1853.4	1853.4	1849.8	1842.7	1846.2
30°	1821.1	1792.3	1774.4	1767.2	1752.8	1752.8	1749.3	1742.0	1742.0	1745.7
32.5°	1702.5	1673.8	1659.5	1655.9	1641.5	1641.5	1637.9	1641.5	1641.5	1645.1
35°	1573.2	1548.1	1544.5	1533.7	1530.1	1530.1	1530.1	1537.4	1544.5	1533.7
37.5°	1451.1	1433.2	1422.4	1418.8	1422.4	1422.4	1425.9	1436.7	1433.2	1429.6
40°	1325.4	1311.0	1303.9	1303.9	1311.0	1318.3	1318.3	1329.0	1332.5	1329.0
42.5°	1199.7	1188.9	1188.9	1192.5	1199.7	1203.3	1214.0	1224.9	1228.4	1232.0
45°	1081.2	1081.2	1081.2	1084.7	1088.3	1095.5	1109.8	1120.7	1124.2	1127.9
47.5°	966.2	962.7	973.4	977.1	987.8	991.3	1002.2	1016.6	1020.1	1023.7
50°	858.5	865.6	869.3	880.0	887.2	887.2	901.5	908.8	919.5	919.5
52.5°	757.9	768.6	772.2	783.0	786.6	790.2	797.4	808.1	815.4	815.4
55°	668.1	671.7	678.8	682.5	693.2	696.8	704.0	707.6	718.4	714.8
56°	628.6	635.8	639.3	646.6	653.7	657.3	664.5	668.1	675.3	678.8
57°	592.7	596.3	607.1	610.6	617.8	617.8	621.4	632.2	632.2	635.8
58°	556.8	563.9	567.5	571.1	578.3	581.9	589.1	592.7	596.3	592.7
59°	524.4	528.0	531.5	531.5	538.8	538.8	549.5	556.8	560.3	560.3
60°	492.0	492.0	495.7	499.3	506.4	510.0	510.0	517.3	517.3	517.3
61°	459.8	459.8	463.4	466.9	470.5	470.5	477.8	477.8	481.3	484.9
62°	431.0	427.4	427.4	431.0	431.0	438.3	441.8	445.4	449.0	445.4
63°	398.7	395.1	395.1	395.1	395.1	402.3	402.3	405.9	413.1	409.5
64°	362.7	362.7	362.7	362.7	366.4	366.4	373.6	377.1	380.7	384.4
65°	337.6	330.5	326.9	326.9	330.5	334.1	337.6	341.2	344.9	344.9
66°	308.8	301.7	298.1	298.1	298.1	298.1	305.3	305.3	312.5	312.5
67°	276.6	269.3	265.8	262.2	262.2	262.2	273.0	269.3	269.3	269.3
67.5°	265.8	255.1	251.5	247.8	244.2	251.5	247.8	251.5	251.5	247.8
68°	251.5	244.2	237.1	229.8	229.8	229.8	233.4	237.1	233.4	229.8
69°	222.7	219.1	208.3	201.2	197.6	201.2	197.6	201.2	197.6	201.2
70°	197.6	186.8	176.1	172.4	168.8	168.8	168.8	165.2	168.8	165.2
71°	172.4	161.7	150.9	143.7	140.0	140.0	136.5	140.0	136.5	140.0
72°	147.3	136.5	122.2	114.9	114.9	114.9	114.9	111.4	114.9	111.4
72.5°	136.5	122.2	111.4	104.2	100.5	100.5	100.5	100.5	97.0	100.5
73°	125.7	111.4	97.0	93.4	93.4	93.4	89.8	86.2	89.8	89.8





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	43.1	32.4	28.8	28.8	28.8	28.8	28.8	28.8	25.1	25.1
80°	18.0	14.4	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
82.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
85°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
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°	233.4	233.4	226.3	215.6	197.6	179.6	165.2	150.9	132.9	114.9	107.8
75°	215.6	211.9	204.7	193.9	179.6	161.7	147.3	129.3	114.9	97.0	89.8







74°	104.2	86.2	79.0	71.9	71.9	71.9	68.3	68.3	68.3	71.9
75°	82.6	68.3	61.0	53.9	57.5	53.9	57.5	53.9	53.9	53.9



(END OF REPORT)