

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: P584889

Luminaire Tested: **HC850D010-HM82555935-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584889
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-HM82555935-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4634.3 lumens
Efficiency: N/A
Efficacy: 96.5 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

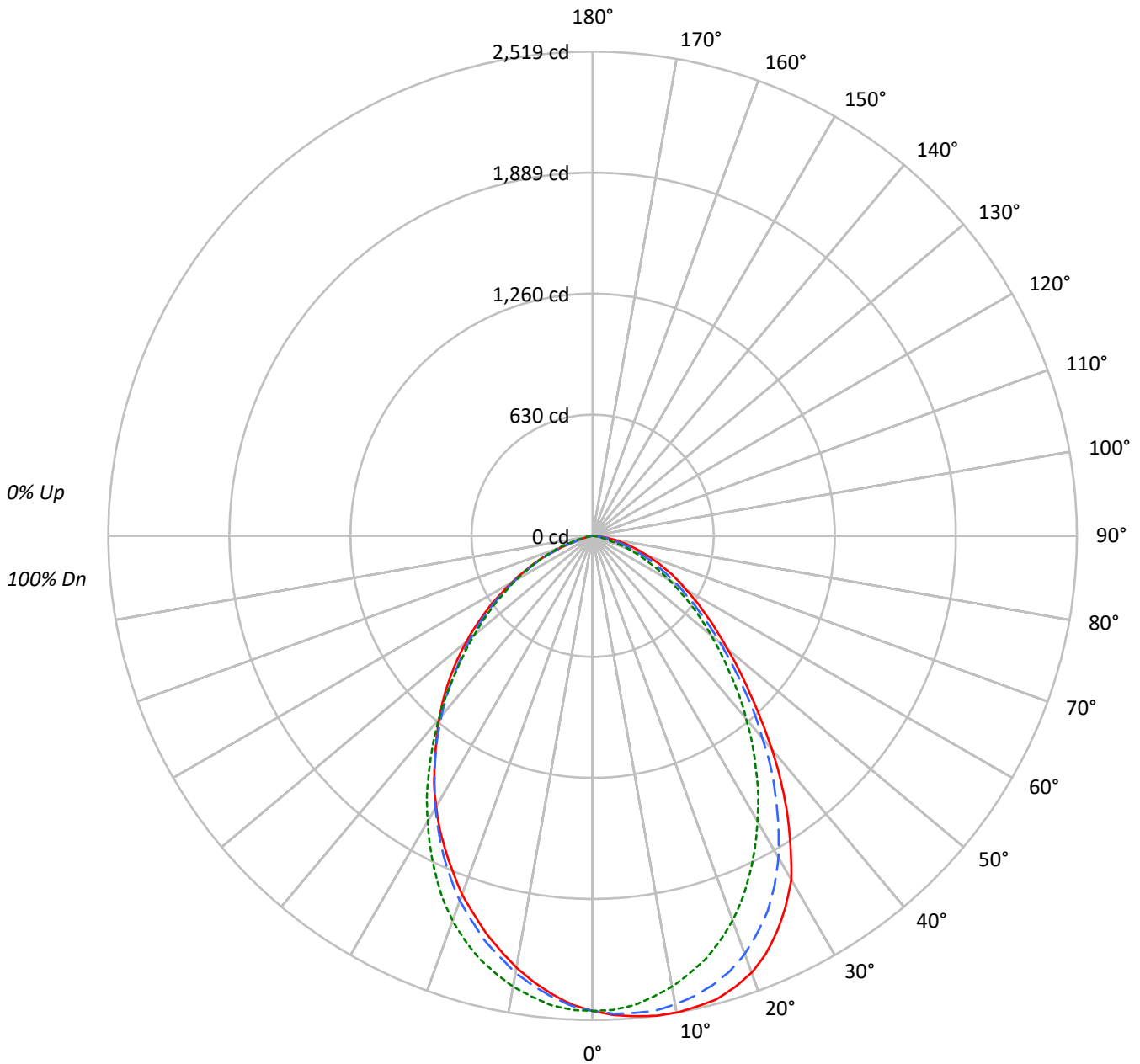
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
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°	76230	76230	76230
5°	77661	75899	74135
10°	78875	74573	71426
15°	79667	72717	68330
20°	79361	69910	65184
25°	77269	65874	61543
30°	73588	61066	57964
35°	66453	55732	53842
40°	58384	50028	49891
45°	50399	43971	45864
50°	43871	38565	41137
55°	38896	33499	35837
60°	34709	28302	29745
65°	31287	22969	23466
70°	27778	17211	13894
75°	23948	9972	5993
80°	18433	3569	1794
85°	11888	1203	1203



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.1	5.0
10°-20°	646.0	13.9
20°-30°	913.7	19.7
30°-40°	962.8	20.8
40°-50°	818.3	17.7
50°-60°	589.2	12.7
60°-70°	339.9	7.3
70°-80°	116.3	2.5
80°-90°	16.0	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°	1791.8	38.7
0°-40°	2754.6	59.4
0°-60°	4162.1	89.8
0°-90°	4634.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4634.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2472	2472	2472	2472	2472	
5°	2509	2492	2452	2408	2395	240
15°	2496	2418	2278	2177	2140	703
25°	2271	2154	1936	1836	1809	1042
35°	1765	1661	1480	1427	1430	1099
45°	1156	1102	1008	1015	1052	898
55°	724	667	623	646	667	651
65°	429	368	315	308	322	427
75°	201	151	84	54	50	212
85°	34	20	3	3	3	45
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°	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1
2.5°	2495.5	2498.9	2495.5	2495.5	2492.2	2488.8	2485.4	2482.1	2475.4	2468.7	2468.7
5°	2508.9	2515.6	2508.9	2508.9	2498.9	2492.2	2485.4	2475.4	2462.0	2452.0	2452.0
7.5°	2519.0	2519.0	2519.0	2508.9	2502.1	2492.2	2475.4	2458.6	2441.9	2425.1	2418.4
10°	2519.0	2519.0	2515.6	2502.1	2495.5	2475.4	2458.6	2435.1	2411.8	2388.3	2381.6
12.5°	2508.9	2512.2	2505.5	2492.2	2475.4	2452.0	2428.5	2398.3	2371.6	2344.8	2331.3
15°	2495.5	2492.2	2485.4	2468.7	2448.6	2418.4	2395.0	2361.5	2324.7	2291.1	2277.8
17.5°	2462.0	2462.0	2452.0	2435.1	2408.4	2374.9	2338.0	2301.2	2261.0	2224.1	2207.4
20°	2418.4	2418.4	2405.1	2385.0	2358.1	2314.6	2274.4	2230.9	2183.9	2147.1	2130.4
22.5°	2354.8	2358.1	2341.4	2318.0	2287.8	2237.6	2197.4	2143.8	2096.8	2053.3	2039.9
25°	2271.0	2277.8	2261.0	2237.6	2197.4	2153.8	2103.6	2053.3	1999.7	1956.2	1936.1
27.5°	2173.9	2177.3	2160.5	2137.0	2096.8	2050.0	1999.7	1946.2	1895.9	1849.0	1828.9
30°	2066.7	2053.3	2046.7	2016.5	1972.9	1932.7	1875.8	1832.3	1778.6	1738.4	1715.0
32.5°	1916.0	1922.7	1902.5	1879.2	1845.6	1798.7	1751.9	1701.6	1651.3	1621.2	1604.5
35°	1765.3	1772.0	1761.9	1738.4	1701.6	1661.4	1614.5	1577.7	1534.1	1497.3	1480.5
37.5°	1607.8	1607.8	1601.2	1587.7	1561.0	1524.1	1477.1	1440.3	1403.5	1373.3	1363.3
40°	1450.4	1443.7	1440.3	1430.3	1406.9	1373.3	1343.2	1313.0	1276.2	1256.1	1242.8
42.5°	1296.3	1296.3	1289.6	1279.6	1256.1	1239.4	1209.2	1175.8	1148.9	1128.8	1128.8
45°	1155.7	1158.9	1148.9	1142.2	1128.8	1102.0	1075.2	1051.7	1028.4	1014.9	1008.3
47.5°	1031.6	1031.6	1021.6	1014.9	1001.6	978.1	954.6	934.5	917.8	907.7	904.5
50°	914.5	914.5	914.5	897.7	881.0	864.2	847.4	824.0	814.0	807.3	803.9
52.5°	814.0	810.6	810.6	797.3	780.4	760.3	743.6	723.5	713.4	706.8	710.2
55°	723.5	723.5	720.2	703.4	686.7	666.6	649.8	633.1	626.4	619.7	623.1
56°	686.7	686.7	683.3	670.0	649.8	633.1	613.0	596.2	586.1	589.5	589.5
57°	659.9	653.2	653.2	636.4	619.7	596.2	579.5	562.8	556.1	552.7	552.7
58°	626.4	623.1	619.7	603.0	586.1	566.1	549.3	532.6	522.5	522.5	519.2
59°	592.9	592.9	586.1	572.8	556.1	536.0	519.2	502.4	492.4	489.0	489.0
60°	562.8	566.1	556.1	542.6	529.2	505.8	485.7	472.3	462.2	458.9	458.9
61°	536.0	536.0	529.2	512.5	495.8	479.1	458.9	442.1	435.5	428.8	428.8
62°	512.5	505.8	502.4	485.7	469.0	448.9	432.1	415.3	405.3	398.6	401.9
63°	482.3	479.1	472.3	458.9	442.1	422.0	401.9	388.6	378.5	368.5	371.9
64°	458.9	455.6	445.5	432.1	415.3	395.2	375.1	361.8	355.0	345.0	341.7
65°	428.8	425.4	422.0	405.3	388.6	368.5	351.8	338.3	328.3	321.6	314.8
66°	401.9	405.3	398.6	385.2	365.1	348.4	324.9	311.5	304.9	294.8	288.0
67°	378.5	378.5	371.9	358.4	338.3	321.6	304.9	288.0	278.0	267.9	264.7
67.5°	365.1	365.1	358.4	341.7	328.3	308.1	291.4	278.0	264.7	257.9	251.2
68°	351.8	351.8	348.4	334.9	318.2	298.1	281.4	264.7	251.2	241.2	237.8
69°	328.3	331.6	324.9	311.5	294.8	274.7	257.9	244.6	231.1	221.1	214.4
70°	308.1	304.9	298.1	284.8	267.9	254.6	237.8	221.1	207.7	194.3	190.9
71°	281.4	281.4	274.7	264.7	247.8	231.1	214.4	201.0	187.6	170.8	167.5
72°	261.3	261.3	254.6	241.2	227.7	211.0	194.3	177.6	167.5	150.7	144.0
72.5°	247.8	251.2	244.6	231.1	217.8	197.7	184.2	170.8	154.1	140.6	134.0
73°	241.2	237.8	234.5	221.1	204.3	190.9	174.2	160.7	144.0	130.7	123.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	150.7	150.7	147.4	134.0	120.6	107.2	93.8	80.4	67.0	53.5	46.9
80°	103.8	107.2	100.5	93.8	83.7	70.4	56.9	46.9	33.6	26.8	20.1
82.5°	67.0	67.0	63.6	56.9	50.3	40.2	33.6	23.5	16.7	13.4	10.1
85°	33.6	36.8	33.6	30.2	23.5	20.1	16.7	10.1	6.7	3.4	3.4
87.5°	13.4	13.4	13.4	10.1	10.1	6.7	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°	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1	2472.1
2.5°	2462.0	2462.0	2455.3	2452.0	2448.6	2445.2	2441.9	2438.5	2438.5	2441.9
5°	2441.9	2435.1	2421.8	2418.4	2408.4	2405.1	2398.3	2395.0	2398.3	2395.0
7.5°	2411.8	2398.3	2381.6	2374.9	2361.5	2354.8	2344.8	2344.8	2338.0	2341.4
10°	2371.6	2351.4	2331.3	2318.0	2308.0	2297.9	2291.1	2284.5	2281.1	2281.1
12.5°	2321.3	2297.9	2277.8	2257.7	2240.9	2234.2	2220.9	2220.9	2214.1	2210.8
15°	2264.4	2234.2	2210.8	2190.7	2177.3	2163.8	2153.8	2147.1	2140.4	2140.4
17.5°	2190.7	2163.8	2140.4	2116.9	2096.8	2086.8	2076.7	2066.7	2066.7	2060.0
20°	2110.3	2080.1	2060.0	2036.6	2019.8	2003.1	1989.6	1989.6	1983.0	1986.4
22.5°	2019.8	1983.0	1962.9	1946.2	1929.4	1916.0	1902.5	1902.5	1899.3	1895.9
25°	1919.4	1889.2	1865.7	1845.6	1835.6	1822.2	1818.8	1812.2	1808.8	1808.8
27.5°	1812.2	1788.7	1758.5	1748.5	1735.1	1728.4	1728.4	1725.1	1718.3	1721.7
30°	1698.3	1671.4	1654.7	1648.1	1634.6	1634.6	1631.2	1624.6	1624.6	1627.9
32.5°	1587.7	1561.0	1547.5	1544.1	1530.8	1530.8	1527.4	1530.8	1530.8	1534.1
35°	1467.1	1443.7	1440.3	1430.3	1427.0	1427.0	1427.0	1433.7	1440.3	1430.3
37.5°	1353.2	1336.5	1326.5	1323.1	1326.5	1326.5	1329.9	1339.9	1336.5	1333.1
40°	1236.0	1222.7	1215.9	1215.9	1222.7	1229.3	1229.3	1239.4	1242.8	1239.4
42.5°	1118.7	1108.7	1108.7	1112.1	1118.7	1122.1	1132.2	1142.2	1145.6	1148.9
45°	1008.3	1008.3	1008.3	1011.5	1014.9	1021.6	1035.0	1045.1	1048.5	1051.7
47.5°	901.1	897.7	907.7	911.1	921.2	924.4	934.5	947.9	951.3	954.6
50°	800.5	807.3	810.6	820.6	827.4	827.4	840.7	847.4	857.5	857.5
52.5°	706.8	716.8	720.2	730.3	733.5	736.9	743.6	753.7	760.3	760.3
55°	623.1	626.4	633.1	636.4	646.5	649.8	656.5	659.9	670.0	666.6
56°	586.1	592.9	596.2	603.0	609.6	613.0	619.7	623.1	629.7	633.1
57°	552.7	556.1	566.1	569.4	576.1	576.1	579.5	589.5	589.5	592.9
58°	519.2	525.9	529.2	532.6	539.3	542.6	549.3	552.7	556.1	552.7
59°	489.0	492.4	495.8	495.8	502.4	502.4	512.5	519.2	522.5	522.5
60°	458.9	458.9	462.2	465.6	472.3	475.7	475.7	482.3	482.3	482.3
61°	428.8	428.8	432.1	435.5	438.8	438.8	445.5	445.5	448.9	452.2
62°	401.9	398.6	398.6	401.9	401.9	408.7	412.0	415.3	418.7	415.3
63°	371.9	368.5	368.5	368.5	368.5	375.1	375.1	378.5	385.2	381.9
64°	338.3	338.3	338.3	338.3	341.7	341.7	348.4	351.8	355.0	358.4
65°	314.8	308.1	304.9	304.9	308.1	311.5	314.8	318.2	321.6	321.6
66°	288.0	281.4	278.0	278.0	278.0	278.0	284.8	284.8	291.4	291.4
67°	257.9	251.2	247.8	244.6	244.6	244.6	254.6	251.2	251.2	251.2
67.5°	247.8	237.8	234.5	231.1	227.7	234.5	231.1	234.5	234.5	231.1
68°	234.5	227.7	221.1	214.4	214.4	214.4	217.8	221.1	217.8	214.4
69°	207.7	204.3	194.3	187.6	184.2	187.6	184.2	187.6	184.2	187.6
70°	184.2	174.2	164.1	160.7	157.5	157.5	157.5	154.1	157.5	154.1
71°	160.7	150.7	140.6	134.0	130.7	130.7	127.3	130.7	127.3	130.7
72°	137.4	127.3	113.9	107.2	107.2	107.2	107.2	103.8	107.2	103.8
72.5°	127.3	113.9	103.8	97.1	93.8	93.8	93.8	93.8	90.5	93.8
73°	117.3	103.8	90.5	87.1	87.1	87.1	83.7	80.4	83.7	83.7



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	40.2	30.2	26.8	26.8	26.8	26.8	26.8	26.8	23.5	23.5
80°	16.7	13.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
82.5°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
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°	217.8	217.8	211.0	201.0	184.2	167.5	154.1	140.6	123.9	107.2	100.5
75°	201.0	197.7	190.9	180.8	167.5	150.7	137.4	120.6	107.2	90.5	83.7





74°	97.1	80.4	73.6	67.0	67.0	67.0	63.6	63.6	63.6	67.0
75°	77.0	63.6	56.9	50.3	53.5	50.3	53.5	50.3	50.3	50.3



(END OF REPORT)