

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: P584838

Luminaire Tested: **HC850D010-HM82555840-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584838
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-HM82555840-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5382.2 lumens
Efficiency: N/A
Efficacy: 112.1 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

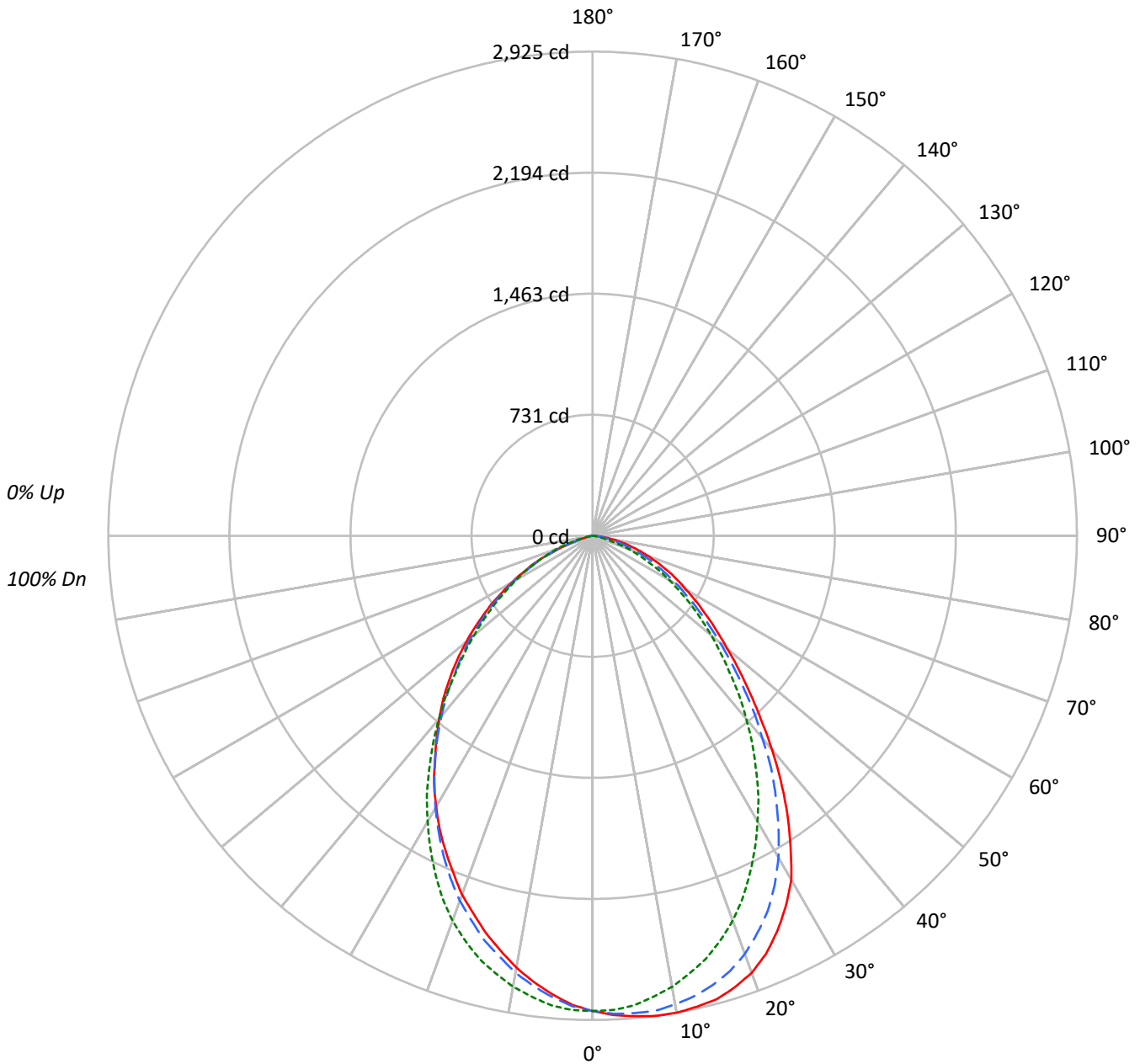
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	88528	88528	88528
5°	90191	88148	86099
10°	91600	86609	82952
15°	92522	84449	79360
20°	92172	81192	75702
25°	89742	76507	71474
30°	85467	70918	67318
35°	77178	64729	62531
40°	67804	58094	57942
45°	58528	51066	53269
50°	50947	44792	47776
55°	45176	38902	41617
60°	40309	32865	34549
65°	36337	26683	27252
70°	32268	19997	16139
75°	27808	11593	6946
80°	21416	4155	2078
85°	13763	1380	1380



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.5	5.0
10°-20°	750.3	13.9
20°-30°	1061.2	19.7
30°-40°	1118.2	20.8
40°-50°	950.3	17.7
50°-60°	684.3	12.7
60°-70°	394.7	7.3
70°-80°	135.1	2.5
80°-90°	18.6	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°	2081.0	38.7
0°-40°	3199.2	59.4
0°-60°	4833.8	89.8
0°-90°	5382.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5382.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2871	2871	2871	2871	2871	
5°	2914	2894	2848	2797	2782	278
15°	2898	2809	2645	2529	2486	816
25°	2638	2501	2249	2132	2101	1210
35°	2050	1930	1720	1657	1661	1277
45°	1342	1280	1171	1179	1222	1043
55°	840	774	724	751	774	756
65°	498	428	366	358	374	495
75°	233	175	97	62	58	246
85°	39	23	4	4	4	52
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°	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9
2.5°	2898.2	2902.2	2898.2	2898.2	2894.3	2890.5	2886.5	2882.6	2874.9	2867.1	2867.1
5°	2913.7	2921.6	2913.7	2913.7	2902.2	2894.3	2886.5	2874.9	2859.3	2847.7	2847.7
7.5°	2925.4	2925.4	2925.4	2913.7	2906.0	2894.3	2874.9	2855.4	2836.0	2816.5	2808.8
10°	2925.4	2925.4	2921.6	2906.0	2898.2	2874.9	2855.4	2828.2	2800.9	2773.7	2766.0
12.5°	2913.7	2917.7	2909.9	2894.3	2874.9	2847.7	2820.4	2785.4	2754.3	2723.2	2707.6
15°	2898.2	2894.3	2886.5	2867.1	2843.7	2808.8	2781.5	2742.6	2699.8	2660.9	2645.3
17.5°	2859.3	2859.3	2847.7	2828.2	2797.1	2758.1	2715.4	2672.6	2625.9	2583.1	2563.6
20°	2808.8	2808.8	2793.2	2769.8	2738.7	2688.1	2641.5	2590.9	2536.4	2493.6	2474.2
22.5°	2734.9	2738.7	2719.2	2692.1	2657.0	2598.7	2551.9	2489.7	2435.3	2384.8	2369.1
25°	2637.6	2645.3	2625.9	2598.7	2551.9	2501.4	2443.1	2384.8	2322.5	2271.8	2248.6
27.5°	2524.8	2528.7	2509.1	2481.9	2435.3	2380.8	2322.5	2260.3	2201.8	2147.5	2124.1
30°	2400.3	2384.8	2376.9	2341.9	2291.4	2244.7	2178.5	2127.9	2065.7	2019.0	1991.7
32.5°	2225.2	2233.0	2209.6	2182.4	2143.5	2089.0	2034.5	1976.2	1917.9	1882.9	1863.4
35°	2050.2	2057.9	2046.2	2019.0	1976.2	1929.6	1875.1	1832.3	1781.7	1738.9	1719.5
37.5°	1867.4	1867.4	1859.5	1844.0	1812.9	1770.1	1715.6	1672.8	1630.1	1595.0	1583.3
40°	1684.4	1676.7	1672.8	1661.1	1633.9	1595.0	1560.0	1525.0	1482.2	1458.8	1443.2
42.5°	1505.6	1505.6	1497.7	1486.0	1458.8	1439.4	1404.3	1365.5	1334.3	1311.0	1311.0
45°	1342.1	1346.0	1334.3	1326.6	1311.0	1279.9	1248.7	1221.5	1194.3	1178.7	1171.0
47.5°	1198.2	1198.2	1186.5	1178.7	1163.2	1135.9	1108.7	1085.4	1065.9	1054.2	1050.3
50°	1062.0	1062.0	1062.0	1042.6	1023.1	1003.7	984.2	956.9	945.4	937.5	933.7
52.5°	945.4	941.4	941.4	925.8	906.4	883.1	863.7	840.3	828.6	820.9	824.7
55°	840.3	840.3	836.4	816.9	797.5	774.1	754.7	735.3	727.5	719.6	723.6
56°	797.5	797.5	793.6	778.1	754.7	735.3	711.9	692.5	680.8	684.7	684.7
57°	766.4	758.6	758.6	739.2	719.6	692.5	673.0	653.6	645.8	641.9	641.9
58°	727.5	723.6	719.6	700.2	680.8	657.4	638.0	618.5	606.8	606.8	603.0
59°	688.5	688.5	680.8	665.3	645.8	622.5	603.0	583.6	571.9	568.0	568.0
60°	653.6	657.4	645.8	630.2	614.7	587.4	564.0	548.5	536.8	532.9	532.9
61°	622.5	622.5	614.7	595.3	575.7	556.3	532.9	513.5	505.7	498.0	498.0
62°	595.3	587.4	583.6	564.0	544.6	521.3	501.9	482.3	470.8	462.9	466.8
63°	560.2	556.3	548.5	532.9	513.5	490.2	466.8	451.2	439.5	428.0	431.8
64°	532.9	529.1	517.4	501.9	482.3	459.1	435.7	420.1	412.3	400.7	396.8
65°	498.0	494.0	490.2	470.8	451.2	428.0	408.4	392.9	381.2	373.5	365.7
66°	466.8	470.8	462.9	447.4	424.0	404.6	377.4	361.8	354.0	342.3	334.6
67°	439.5	439.5	431.8	416.3	392.9	373.5	354.0	334.6	322.9	311.2	307.3
67.5°	424.0	424.0	416.3	396.8	381.2	357.9	338.4	322.9	307.3	299.5	291.8
68°	408.4	408.4	404.6	389.0	369.5	346.3	326.7	307.3	291.8	280.1	276.2
69°	381.2	385.2	377.4	361.8	342.3	319.0	299.5	284.0	268.4	256.7	249.0
70°	357.9	354.0	346.3	330.7	311.2	295.6	276.2	256.7	241.2	225.6	221.8
71°	326.7	326.7	319.0	307.3	287.9	268.4	249.0	233.4	217.9	198.4	194.5
72°	303.5	303.5	295.6	280.1	264.5	245.1	225.6	206.2	194.5	175.1	167.3
72.5°	287.9	291.8	284.0	268.4	252.9	229.5	213.9	198.4	179.0	163.4	155.6
73°	280.1	276.2	272.3	256.7	237.3	221.8	202.2	186.7	167.3	151.7	143.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	175.1	175.1	171.1	155.6	140.0	124.5	109.0	93.4	77.9	62.2	54.5
80°	120.6	124.5	116.7	109.0	97.3	81.7	66.2	54.5	38.9	31.1	23.4
82.5°	77.9	77.9	73.9	66.2	58.3	46.6	38.9	27.2	19.4	15.5	11.7
85°	38.9	42.8	38.9	35.1	27.2	23.4	19.4	11.7	7.8	3.9	3.9
87.5°	15.5	15.5	15.5	11.7	11.7	7.8	3.9	3.9	3.9	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°	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9	2870.9
2.5°	2859.3	2859.3	2851.5	2847.7	2843.7	2839.9	2836.0	2832.1	2832.1	2836.0
5°	2836.0	2828.2	2812.6	2808.8	2797.1	2793.2	2785.4	2781.5	2785.4	2781.5
7.5°	2800.9	2785.4	2766.0	2758.1	2742.6	2734.9	2723.2	2723.2	2715.4	2719.2
10°	2754.3	2730.9	2707.6	2692.1	2680.4	2668.7	2660.9	2653.2	2649.2	2649.2
12.5°	2695.9	2668.7	2645.3	2622.1	2602.5	2594.8	2579.2	2579.2	2571.4	2567.6
15°	2629.8	2594.8	2567.6	2544.2	2528.7	2513.1	2501.4	2493.6	2485.9	2485.9
17.5°	2544.2	2513.1	2485.9	2458.6	2435.3	2423.6	2411.9	2400.3	2400.3	2392.5
20°	2450.8	2415.9	2392.5	2365.2	2345.8	2326.3	2310.8	2310.8	2303.0	2306.9
22.5°	2345.8	2303.0	2279.7	2260.3	2240.7	2225.2	2209.6	2209.6	2205.8	2201.8
25°	2229.0	2194.1	2166.9	2143.5	2131.8	2116.2	2112.4	2104.7	2100.7	2100.7
27.5°	2104.7	2077.4	2042.4	2030.7	2015.1	2007.4	2007.4	2003.4	1995.7	1999.6
30°	1972.3	1941.2	1921.7	1914.0	1898.5	1898.5	1894.5	1886.8	1886.8	1890.6
32.5°	1844.0	1812.9	1797.3	1793.4	1777.8	1777.8	1774.0	1777.8	1777.8	1781.7
35°	1703.9	1676.7	1672.8	1661.1	1657.3	1657.3	1657.3	1665.0	1672.8	1661.1
37.5°	1571.6	1552.2	1540.5	1536.7	1540.5	1540.5	1544.4	1556.1	1552.2	1548.3
40°	1435.5	1420.0	1412.2	1412.2	1420.0	1427.7	1427.7	1439.4	1443.2	1439.4
42.5°	1299.3	1287.7	1287.7	1291.5	1299.3	1303.2	1314.9	1326.6	1330.4	1334.3
45°	1171.0	1171.0	1171.0	1174.8	1178.7	1186.5	1202.1	1213.8	1217.6	1221.5
47.5°	1046.5	1042.6	1054.2	1058.2	1069.9	1073.7	1085.4	1101.0	1104.8	1108.7
50°	929.7	937.5	941.4	953.1	960.9	960.9	976.5	984.2	995.9	995.9
52.5°	820.9	832.6	836.4	848.1	852.0	855.8	863.7	875.3	883.1	883.1
55°	723.6	727.5	735.3	739.2	750.8	754.7	762.5	766.4	778.1	774.1
56°	680.8	688.5	692.5	700.2	708.1	711.9	719.6	723.6	731.3	735.3
57°	641.9	645.8	657.4	661.3	669.1	669.1	673.0	684.7	684.7	688.5
58°	603.0	610.8	614.7	618.5	626.4	630.2	638.0	641.9	645.8	641.9
59°	568.0	571.9	575.7	575.7	583.6	583.6	595.3	603.0	606.8	606.8
60°	532.9	532.9	536.8	540.8	548.5	552.5	552.5	560.2	560.2	560.2
61°	498.0	498.0	501.9	505.7	509.6	509.6	517.4	517.4	521.3	525.2
62°	466.8	462.9	462.9	466.8	466.8	474.6	478.5	482.3	486.3	482.3
63°	431.8	428.0	428.0	428.0	428.0	435.7	435.7	439.5	447.4	443.5
64°	392.9	392.9	392.9	392.9	396.8	396.8	404.6	408.4	412.3	416.3
65°	365.7	357.9	354.0	354.0	357.9	361.8	365.7	369.5	373.5	373.5
66°	334.6	326.7	322.9	322.9	322.9	322.9	330.7	330.7	338.4	338.4
67°	299.5	291.8	287.9	284.0	284.0	284.0	295.6	291.8	291.8	291.8
67.5°	287.9	276.2	272.3	268.4	264.5	272.3	268.4	272.3	272.3	268.4
68°	272.3	264.5	256.7	249.0	249.0	249.0	252.9	256.7	252.9	249.0
69°	241.2	237.3	225.6	217.9	213.9	217.9	213.9	217.9	213.9	217.9
70°	213.9	202.2	190.7	186.7	182.8	182.8	182.8	179.0	182.8	179.0
71°	186.7	175.1	163.4	155.6	151.7	151.7	147.9	151.7	147.9	151.7
72°	159.5	147.9	132.2	124.5	124.5	124.5	124.5	120.6	124.5	120.6
72.5°	147.9	132.2	120.6	112.8	109.0	109.0	109.0	109.0	105.1	109.0
73°	136.2	120.6	105.1	101.1	101.1	101.1	97.3	93.4	97.3	97.3



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	46.6	35.1	31.1	31.1	31.1	31.1	31.1	31.1	27.2	27.2
80°	19.4	15.5	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
82.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
85°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
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°	252.9	252.9	245.1	233.4	213.9	194.5	179.0	163.4	143.9	124.5	116.7
75°	233.4	229.5	221.8	210.1	194.5	175.1	159.5	140.0	124.5	105.1	97.3





74°	112.8	93.4	85.6	77.9	77.9	77.9	73.9	73.9	73.9	77.9
75°	89.4	73.9	66.2	58.3	62.2	58.3	62.2	58.3	58.3	58.3



(END OF REPORT)