

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: P585059

Luminaire Tested: **HC860D010-HM86080827-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585059
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: HC860D010-HM86080827-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4825.4 lumens
Efficiency: N/A
Efficacy: 86.2 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

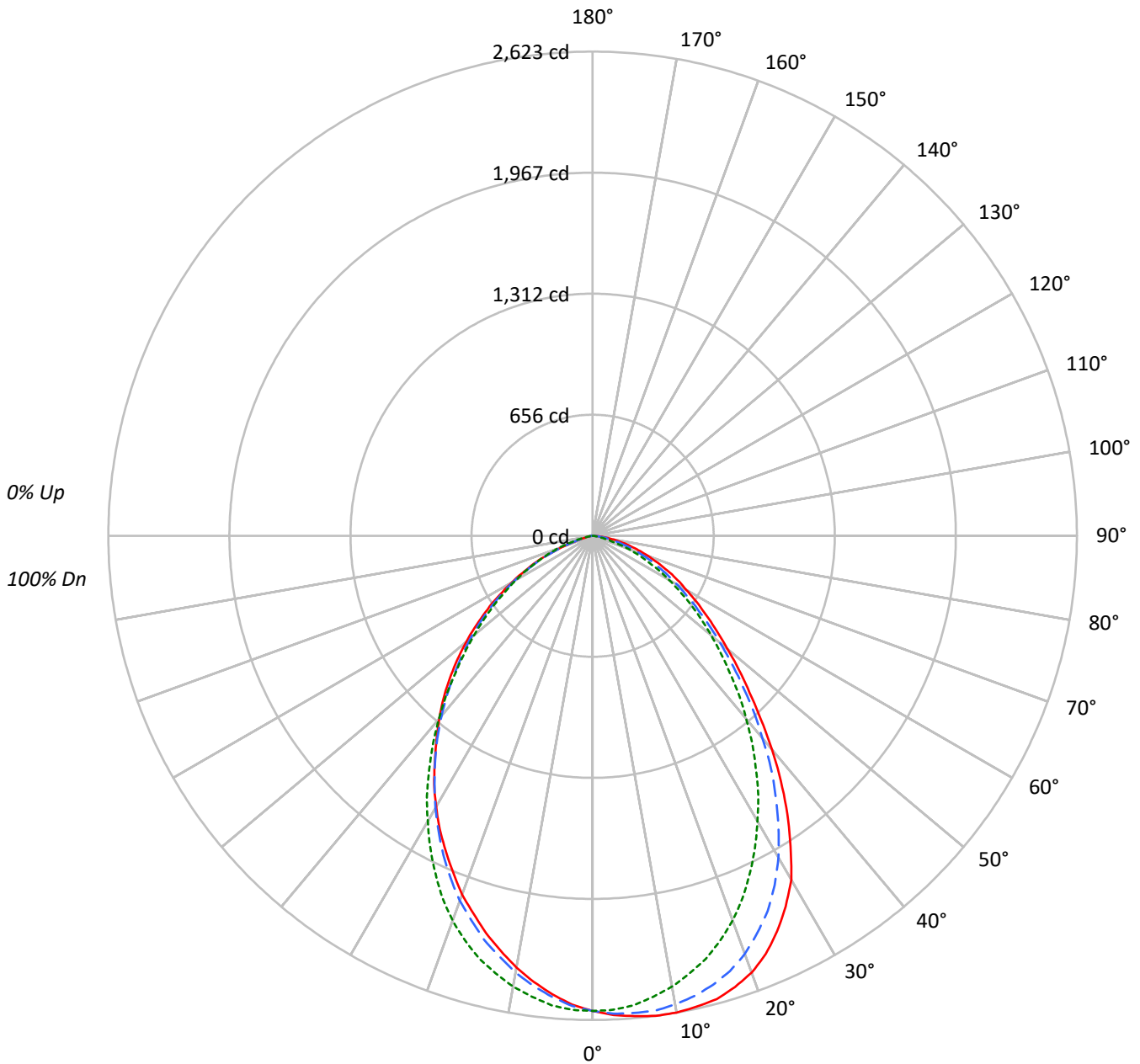
Input Watts (W): 56
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	79373	79373	79373
5°	80861	79029	77193
10°	82125	77648	74372
15°	82952	75714	71149
20°	82636	72791	67872
25°	80457	68589	64081
30°	76626	63586	60353
35°	69194	58032	56063
40°	60796	52089	51948
45°	52475	45781	47761
50°	45675	40153	42830
55°	40504	34880	37316
60°	36134	29473	30972
65°	32579	23925	24429
70°	28932	17924	14462
75°	24925	10389	6243
80°	19196	3711	1865
85°	12312	1238	1238



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.6	5.0
10°-20°	672.7	13.9
20°-30°	951.4	19.7
30°-40°	1002.5	20.8
40°-50°	852.0	17.7
50°-60°	613.5	12.7
60°-70°	353.9	7.3
70°-80°	121.1	2.5
80°-90°	16.6	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°	1865.7	38.7
0°-40°	2868.2	59.4
0°-60°	4333.8	89.8
0°-90°	4825.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4825.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2574	2574	2574	2574	2574	
5°	2612	2595	2553	2508	2494	250
15°	2598	2518	2372	2267	2229	732
25°	2365	2243	2016	1911	1883	1084
35°	1838	1730	1542	1486	1489	1145
45°	1203	1148	1050	1057	1095	935
55°	753	694	649	673	694	678
65°	446	384	328	321	335	444
75°	209	157	87	56	52	221
85°	35	21	4	4	4	47
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°	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0
2.5°	2598.4	2602.0	2598.4	2598.4	2594.9	2591.5	2588.0	2584.4	2577.5	2570.5	2570.5
5°	2612.3	2619.4	2612.3	2612.3	2602.0	2594.9	2588.0	2577.5	2563.5	2553.1	2553.1
7.5°	2622.8	2622.8	2622.8	2612.3	2605.4	2594.9	2577.5	2560.1	2542.7	2525.1	2518.2
10°	2622.8	2622.8	2619.4	2605.4	2598.4	2577.5	2560.1	2535.6	2511.2	2486.8	2479.8
12.5°	2612.3	2615.9	2608.9	2594.9	2577.5	2553.1	2528.7	2497.2	2469.4	2441.5	2427.6
15°	2598.4	2594.9	2588.0	2570.5	2549.6	2518.2	2493.8	2458.9	2420.5	2385.7	2371.7
17.5°	2563.5	2563.5	2553.1	2535.6	2507.7	2472.9	2434.5	2396.1	2354.3	2315.9	2298.5
20°	2518.2	2518.2	2504.3	2483.3	2455.5	2410.0	2368.3	2322.8	2274.0	2235.6	2218.2
22.5°	2451.9	2455.5	2437.9	2413.6	2382.2	2329.9	2288.0	2232.2	2183.4	2138.1	2124.1
25°	2364.7	2371.7	2354.3	2329.9	2288.0	2242.7	2190.3	2138.1	2082.2	2036.9	2015.9
27.5°	2263.5	2267.1	2249.6	2225.3	2183.4	2134.6	2082.2	2026.4	1974.2	1925.3	1904.4
30°	2152.0	2138.1	2131.0	2099.6	2054.3	2012.5	1953.2	1907.8	1852.0	1810.1	1785.8
32.5°	1995.0	2002.0	1981.1	1956.6	1921.8	1873.0	1824.1	1771.9	1719.5	1688.1	1670.7
35°	1838.1	1845.1	1834.6	1810.1	1771.9	1730.0	1681.1	1642.8	1597.5	1559.1	1541.6
37.5°	1674.2	1674.2	1667.1	1653.2	1625.4	1587.0	1538.2	1499.8	1461.4	1430.0	1419.5
40°	1510.3	1503.2	1499.8	1489.3	1464.9	1430.0	1398.6	1367.2	1328.8	1308.0	1294.0
42.5°	1349.8	1349.8	1342.8	1332.3	1308.0	1290.5	1259.1	1224.2	1196.3	1175.4	1175.4
45°	1203.3	1206.8	1196.3	1189.4	1175.4	1147.5	1119.6	1095.2	1070.8	1056.9	1049.8
47.5°	1074.3	1074.3	1063.8	1056.9	1042.9	1018.5	994.0	973.1	955.7	945.2	941.8
50°	952.1	952.1	952.1	934.7	917.3	899.9	882.5	858.0	847.5	840.6	837.0
52.5°	847.5	844.1	844.1	830.1	812.7	791.7	774.3	753.4	742.9	736.0	739.4
55°	753.4	753.4	749.8	732.4	715.0	694.1	676.6	659.2	652.2	645.2	648.8
56°	715.0	715.0	711.5	697.6	676.6	659.2	638.3	620.9	610.4	613.8	613.8
57°	687.1	680.2	680.2	662.6	645.2	620.9	603.3	585.9	579.0	575.5	575.5
58°	652.2	648.8	645.2	627.8	610.4	589.4	572.0	554.6	544.1	544.1	540.6
59°	617.3	617.3	610.4	596.4	579.0	558.0	540.6	523.2	512.7	509.2	509.2
60°	585.9	589.4	579.0	565.1	551.1	526.6	505.8	491.8	481.3	477.9	477.9
61°	558.0	558.0	551.1	533.7	516.1	498.7	477.9	460.4	453.4	446.5	446.5
62°	533.7	526.6	523.2	505.8	488.3	467.4	449.9	432.5	422.0	415.0	418.6
63°	502.2	498.7	491.8	477.9	460.4	439.4	418.6	404.6	394.1	383.6	387.2
64°	477.9	474.4	463.9	449.9	432.5	411.5	390.7	376.7	369.7	359.3	355.7
65°	446.5	442.9	439.4	422.0	404.6	383.6	366.2	352.2	341.8	334.8	327.9
66°	418.6	422.0	415.0	401.2	380.2	362.7	338.3	324.3	317.4	306.9	300.0
67°	394.1	394.1	387.2	373.2	352.2	334.8	317.4	300.0	289.5	279.0	275.5
67.5°	380.2	380.2	373.2	355.7	341.8	320.9	303.5	289.5	275.5	268.5	261.6
68°	366.2	366.2	362.7	348.8	331.4	310.4	293.0	275.5	261.6	251.1	247.6
69°	341.8	345.3	338.3	324.3	306.9	286.0	268.5	254.6	240.7	230.2	223.2
70°	320.9	317.4	310.4	296.4	279.0	265.1	247.6	230.2	216.3	202.3	198.8
71°	293.0	293.0	286.0	275.5	258.1	240.7	223.2	209.2	195.3	177.9	174.4
72°	272.1	272.1	265.1	251.1	237.1	219.7	202.3	184.9	174.4	157.0	149.9
72.5°	258.1	261.6	254.6	240.7	226.8	205.8	191.8	177.9	160.4	146.5	139.6
73°	251.1	247.6	244.2	230.2	212.8	198.8	181.3	167.4	149.9	136.0	129.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	157.0	157.0	153.5	139.6	125.6	111.6	97.7	83.7	69.8	55.8	48.8
80°	108.1	111.6	104.6	97.7	87.2	73.2	59.3	48.8	34.8	27.9	20.9
82.5°	69.8	69.8	66.3	59.3	52.4	41.9	34.8	24.5	17.4	14.0	10.5
85°	34.8	38.4	34.8	31.4	24.5	20.9	17.4	10.5	6.9	3.5	3.5
87.5°	14.0	14.0	14.0	10.5	10.5	6.9	3.5	3.5	3.5	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°	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0	2574.0
2.5°	2563.5	2563.5	2556.5	2553.1	2549.6	2546.1	2542.7	2539.1	2539.1	2542.7
5°	2542.7	2535.6	2521.7	2518.2	2507.7	2504.3	2497.2	2493.8	2497.2	2493.8
7.5°	2511.2	2497.2	2479.8	2472.9	2458.9	2451.9	2441.5	2441.5	2434.5	2437.9
10°	2469.4	2448.4	2427.6	2413.6	2403.1	2392.6	2385.7	2378.7	2375.2	2375.2
12.5°	2417.1	2392.6	2371.7	2350.7	2333.3	2326.4	2312.5	2312.5	2305.4	2302.0
15°	2357.8	2326.4	2302.0	2281.1	2267.1	2253.2	2242.7	2235.6	2228.7	2228.7
17.5°	2281.1	2253.2	2228.7	2204.3	2183.4	2172.9	2162.4	2152.0	2152.0	2145.0
20°	2197.3	2166.0	2145.0	2120.6	2103.1	2085.7	2071.7	2071.7	2064.8	2068.3
22.5°	2103.1	2064.8	2043.8	2026.4	2009.0	1995.0	1981.1	1981.1	1977.6	1974.2
25°	1998.5	1967.1	1942.7	1921.8	1911.3	1897.3	1893.9	1887.0	1883.4	1883.4
27.5°	1887.0	1862.5	1831.1	1820.6	1806.7	1799.8	1799.8	1796.2	1789.3	1792.7
30°	1768.3	1740.4	1722.9	1716.0	1702.1	1702.1	1698.6	1691.6	1691.6	1695.0
32.5°	1653.2	1625.4	1611.4	1607.8	1593.9	1593.9	1590.4	1593.9	1593.9	1597.5
35°	1527.7	1503.2	1499.8	1489.3	1485.8	1485.8	1485.8	1492.7	1499.8	1489.3
37.5°	1409.1	1391.7	1381.2	1377.7	1381.2	1381.2	1384.7	1395.2	1391.7	1388.1
40°	1287.0	1273.0	1266.1	1266.1	1273.0	1280.0	1280.0	1290.5	1294.0	1290.5
42.5°	1164.9	1154.4	1154.4	1157.9	1164.9	1168.4	1178.9	1189.4	1192.8	1196.3
45°	1049.8	1049.8	1049.8	1053.3	1056.9	1063.8	1077.7	1088.2	1091.7	1095.2
47.5°	938.2	934.7	945.2	948.7	959.2	962.6	973.1	987.1	990.5	994.0
50°	833.6	840.6	844.1	854.6	861.5	861.5	875.4	882.5	892.8	892.8
52.5°	736.0	746.4	749.8	760.3	763.8	767.4	774.3	784.8	791.7	791.7
55°	648.8	652.2	659.2	662.6	673.1	676.6	683.6	687.1	697.6	694.1
56°	610.4	617.3	620.9	627.8	634.8	638.3	645.2	648.8	655.7	659.2
57°	575.5	579.0	589.4	593.0	599.9	599.9	603.3	613.8	613.8	617.3
58°	540.6	547.6	551.1	554.6	561.6	565.1	572.0	575.5	579.0	575.5
59°	509.2	512.7	516.1	516.1	523.2	523.2	533.7	540.6	544.1	544.1
60°	477.9	477.9	481.3	484.8	491.8	495.3	495.3	502.2	502.2	502.2
61°	446.5	446.5	449.9	453.4	456.9	456.9	463.9	463.9	467.4	470.8
62°	418.6	415.0	415.0	418.6	418.6	425.5	428.9	432.5	436.0	432.5
63°	387.2	383.6	383.6	383.6	383.6	390.7	390.7	394.1	401.2	397.6
64°	352.2	352.2	352.2	352.2	355.7	355.7	362.7	366.2	369.7	373.2
65°	327.9	320.9	317.4	317.4	320.9	324.3	327.9	331.4	334.8	334.8
66°	300.0	293.0	289.5	289.5	289.5	289.5	296.4	296.4	303.5	303.5
67°	268.5	261.6	258.1	254.6	254.6	254.6	265.1	261.6	261.6	261.6
67.5°	258.1	247.6	244.2	240.7	237.1	244.2	240.7	244.2	244.2	240.7
68°	244.2	237.1	230.2	223.2	223.2	223.2	226.8	230.2	226.8	223.2
69°	216.3	212.8	202.3	195.3	191.8	195.3	191.8	195.3	191.8	195.3
70°	191.8	181.3	170.9	167.4	163.9	163.9	163.9	160.4	163.9	160.4
71°	167.4	157.0	146.5	139.6	136.0	136.0	132.5	136.0	132.5	136.0
72°	143.0	132.5	118.6	111.6	111.6	111.6	111.6	108.1	111.6	108.1
72.5°	132.5	118.6	108.1	101.2	97.7	97.7	97.7	97.7	94.1	97.7
73°	122.0	108.1	94.1	90.7	90.7	90.7	87.2	83.7	87.2	87.2



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	41.9	31.4	27.9	27.9	27.9	27.9	27.9	27.9	24.5	24.5
80°	17.4	14.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
82.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
85°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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°	226.8	226.8	219.7	209.2	191.8	174.4	160.4	146.5	129.1	111.6	104.6
75°	209.2	205.8	198.8	188.4	174.4	157.0	143.0	125.6	111.6	94.1	87.2





74°	101.2	83.7	76.7	69.8	69.8	69.8	66.3	66.3	66.3	69.8
75°	80.3	66.3	59.3	52.4	55.8	52.4	55.8	52.4	52.4	52.4



(END OF REPORT)