

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: P584617

Luminaire Tested: **HC840D010-HM82555935-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584617
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: HC840D010-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: 4133.1 lumens
Efficiency: N/A
Efficacy: 100.8 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

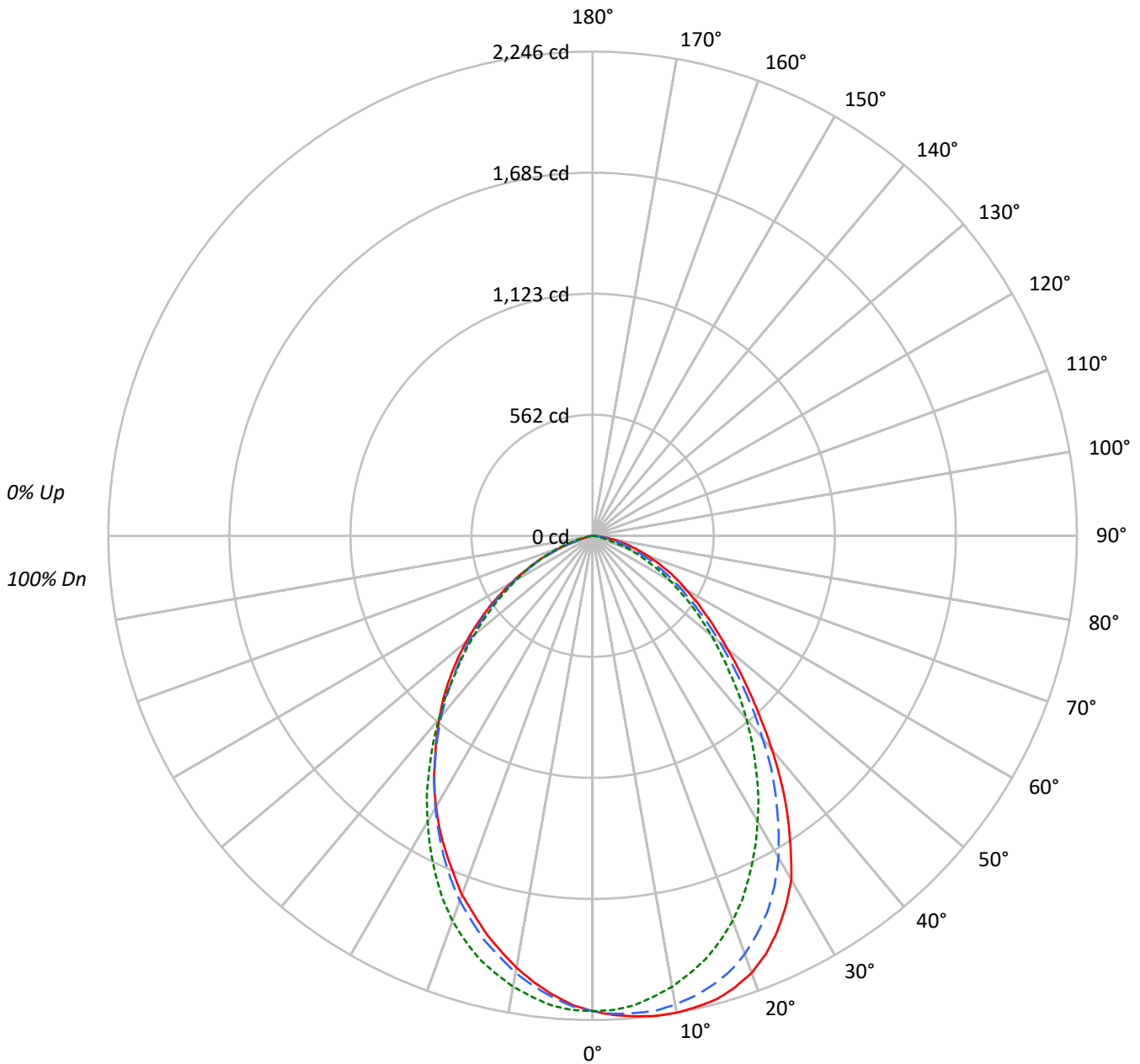
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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																			
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	36	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	67985	67985	67985
5°	69263	67687	66115
10°	70342	66507	63701
15°	71053	64851	60943
20°	70779	62349	58136
25°	68916	58749	54888
30°	65630	54460	51697
35°	59267	49705	48019
40°	52068	44617	44497
45°	44948	39213	40910
50°	39122	34396	36690
55°	34687	29870	31961
60°	30947	25236	26532
65°	27894	20489	20926
70°	24785	15354	12388
75°	21350	8900	5349
80°	16444	3196	1580
85°	10579	1061	1061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.0	5.0
10°-20°	576.2	13.9
20°-30°	814.9	19.7
30°-40°	858.7	20.8
40°-50°	729.8	17.7
50°-60°	525.5	12.7
60°-70°	303.1	7.3
70°-80°	103.7	2.5
80°-90°	14.2	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°	1598.0	38.7
0°-40°	2456.7	59.4
0°-60°	3712.0	89.8
0°-90°	4133.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4133.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2205	2205	2205	2205	2205	
5°	2238	2223	2187	2148	2136	214
15°	2226	2157	2031	1942	1909	627
25°	2026	1921	1727	1637	1613	929
35°	1574	1482	1320	1273	1276	980
45°	1031	983	899	905	938	801
55°	645	594	556	577	594	581
65°	382	329	281	275	287	380
75°	179	134	75	48	45	189
85°	30	18	3	3	3	40
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°	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7
2.5°	2225.7	2228.6	2225.7	2225.7	2222.6	2219.6	2216.6	2213.6	2207.7	2201.7	2201.7
5°	2237.6	2243.5	2237.6	2237.6	2228.6	2222.6	2216.6	2207.7	2195.8	2186.7	2186.7
7.5°	2246.5	2246.5	2246.5	2237.6	2231.6	2222.6	2207.7	2192.7	2177.8	2162.8	2156.9
10°	2246.5	2246.5	2243.5	2231.6	2225.7	2207.7	2192.7	2171.9	2150.9	2130.0	2124.0
12.5°	2237.6	2240.5	2234.6	2222.6	2207.7	2186.7	2165.9	2139.0	2115.1	2091.2	2079.2
15°	2225.7	2222.6	2216.6	2201.7	2183.8	2156.9	2135.9	2106.1	2073.2	2043.3	2031.4
17.5°	2195.8	2195.8	2186.7	2171.9	2148.0	2118.1	2085.2	2052.4	2016.5	1983.6	1968.7
20°	2156.9	2156.9	2145.0	2127.0	2103.1	2064.3	2028.5	1989.6	1947.8	1914.9	1900.0
22.5°	2100.1	2103.1	2088.2	2067.3	2040.4	1995.6	1959.7	1912.0	1870.1	1831.3	1819.3
25°	2025.5	2031.4	2016.5	1995.6	1959.7	1920.9	1876.0	1831.3	1783.5	1744.7	1726.7
27.5°	1938.9	1941.8	1926.8	1905.9	1870.1	1828.3	1783.5	1735.7	1690.9	1649.0	1631.1
30°	1843.2	1831.3	1825.3	1798.4	1759.5	1723.7	1672.9	1634.1	1586.3	1550.5	1529.5
32.5°	1708.8	1714.8	1696.8	1675.9	1646.0	1604.2	1562.4	1517.6	1472.7	1445.8	1431.0
35°	1574.4	1580.3	1571.4	1550.5	1517.6	1481.8	1439.9	1407.1	1368.3	1335.4	1320.4
37.5°	1434.0	1434.0	1428.0	1416.0	1392.2	1359.2	1317.4	1284.6	1251.8	1224.9	1215.8
40°	1293.5	1287.6	1284.6	1275.6	1254.7	1224.9	1198.0	1171.1	1138.2	1120.3	1108.4
42.5°	1156.1	1156.1	1150.1	1141.2	1120.3	1105.4	1078.5	1048.6	1024.7	1006.7	1006.7
45°	1030.7	1033.6	1024.7	1018.8	1006.7	982.8	958.9	938.1	917.1	905.2	899.2
47.5°	920.1	920.1	911.2	905.2	893.2	872.3	851.4	833.5	818.6	809.6	806.6
50°	815.5	815.5	815.5	800.6	785.6	770.8	755.8	734.9	725.9	719.9	717.0
52.5°	725.9	722.9	722.9	711.0	696.0	678.2	663.2	645.2	636.3	630.3	633.3
55°	645.2	645.2	642.2	627.4	612.4	594.5	579.5	564.7	558.6	552.6	555.6
56°	612.4	612.4	609.4	597.5	579.5	564.7	546.7	531.8	522.8	525.7	525.7
57°	588.6	582.5	582.5	567.6	552.6	531.8	516.8	501.8	495.9	492.9	492.9
58°	558.6	555.6	552.6	537.8	522.8	504.9	489.9	475.0	466.0	466.0	463.0
59°	528.7	528.7	522.8	510.9	495.9	478.0	463.0	448.2	439.1	436.1	436.1
60°	501.8	504.9	495.9	484.0	472.0	451.1	433.2	421.3	412.2	409.2	409.2
61°	478.0	478.0	472.0	457.1	442.1	427.2	409.2	394.4	388.4	382.3	382.3
62°	457.1	451.1	448.2	433.2	418.3	400.3	385.3	370.4	361.5	355.5	358.4
63°	430.2	427.2	421.3	409.2	394.4	376.4	358.4	346.5	337.6	328.6	331.7
64°	409.2	406.3	397.3	385.3	370.4	352.5	334.6	322.6	316.7	307.7	304.8
65°	382.3	379.4	376.4	361.5	346.5	328.6	313.7	301.8	292.7	286.8	280.8
66°	358.4	361.5	355.5	343.6	325.6	310.7	289.8	277.9	271.8	262.9	256.9
67°	337.6	337.6	331.7	319.6	301.8	286.8	271.8	256.9	248.0	239.0	236.0
67.5°	325.6	325.6	319.6	304.8	292.7	274.9	259.9	248.0	236.0	230.0	224.1
68°	313.7	313.7	310.7	298.7	283.8	265.8	251.0	236.0	224.1	215.0	212.1
69°	292.7	295.7	289.8	277.9	262.9	245.0	230.0	218.1	206.1	197.2	191.2
70°	274.9	271.8	265.8	253.9	239.0	227.1	212.1	197.2	185.2	173.3	170.3
71°	251.0	251.0	245.0	236.0	221.1	206.1	191.2	179.2	167.3	152.3	149.3
72°	233.0	233.0	227.1	215.0	203.1	188.3	173.3	158.4	149.3	134.5	128.4
72.5°	221.1	224.1	218.1	206.1	194.2	176.2	164.3	152.3	137.4	125.4	119.5
73°	215.0	212.1	209.1	197.2	182.2	170.3	155.3	143.4	128.4	116.5	110.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	134.5	134.5	131.5	119.5	107.6	95.6	83.7	71.6	59.7	47.8	41.8
80°	92.6	95.6	89.6	83.7	74.7	62.7	50.8	41.8	29.9	23.9	18.0
82.5°	59.7	59.7	56.8	50.8	44.9	35.8	29.9	20.9	15.0	11.9	8.9
85°	29.9	32.8	29.9	26.9	20.9	18.0	15.0	8.9	5.9	3.0	3.0
87.5°	11.9	11.9	11.9	8.9	8.9	5.9	3.0	3.0	3.0	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	0.0



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7	2204.7
2.5°	2195.8	2195.8	2189.7	2186.7	2183.8	2180.8	2177.8	2174.8	2174.8	2177.8
5°	2177.8	2171.9	2159.8	2156.9	2148.0	2145.0	2139.0	2135.9	2139.0	2135.9
7.5°	2150.9	2139.0	2124.0	2118.1	2106.1	2100.1	2091.2	2091.2	2085.2	2088.2
10°	2115.1	2097.1	2079.2	2067.3	2058.3	2049.3	2043.3	2037.4	2034.4	2034.4
12.5°	2070.2	2049.3	2031.4	2013.5	1998.6	1992.5	1980.6	1980.6	1974.7	1971.7
15°	2019.4	1992.5	1971.7	1953.7	1941.8	1929.8	1920.9	1914.9	1909.0	1909.0
17.5°	1953.7	1929.8	1909.0	1888.1	1870.1	1861.2	1852.2	1843.2	1843.2	1837.2
20°	1882.1	1855.2	1837.2	1816.3	1801.4	1786.4	1774.5	1774.5	1768.6	1771.6
22.5°	1801.4	1768.6	1750.6	1735.7	1720.7	1708.8	1696.8	1696.8	1693.8	1690.9
25°	1711.8	1684.9	1664.0	1646.0	1637.1	1625.2	1622.2	1616.1	1613.2	1613.2
27.5°	1616.1	1595.3	1568.4	1559.4	1547.5	1541.5	1541.5	1538.6	1532.5	1535.6
30°	1514.6	1490.7	1475.7	1469.8	1457.9	1457.9	1454.9	1448.9	1448.9	1451.9
32.5°	1416.0	1392.2	1380.2	1377.2	1365.3	1365.3	1362.2	1365.3	1365.3	1368.3
35°	1308.5	1287.6	1284.6	1275.6	1272.6	1272.6	1272.6	1278.7	1284.6	1275.6
37.5°	1206.9	1192.0	1183.0	1180.0	1183.0	1183.0	1186.0	1195.0	1192.0	1188.9
40°	1102.3	1090.4	1084.4	1084.4	1090.4	1096.3	1096.3	1105.4	1108.4	1105.4
42.5°	997.8	988.8	988.8	991.9	997.8	1000.8	1009.7	1018.8	1021.7	1024.7
45°	899.2	899.2	899.2	902.1	905.2	911.2	923.1	932.0	935.1	938.1
47.5°	803.6	800.6	809.6	812.5	821.6	824.6	833.5	845.4	848.5	851.4
50°	714.0	719.9	722.9	732.0	737.9	737.9	749.8	755.8	764.8	764.8
52.5°	630.3	639.3	642.2	651.3	654.3	657.2	663.2	672.1	678.2	678.2
55°	555.6	558.6	564.7	567.6	576.6	579.5	585.5	588.6	597.5	594.5
56°	522.8	528.7	531.8	537.8	543.7	546.7	552.6	555.6	561.7	564.7
57°	492.9	495.9	504.9	507.9	513.8	513.8	516.8	525.7	525.7	528.7
58°	463.0	469.0	472.0	475.0	481.0	484.0	489.9	492.9	495.9	492.9
59°	436.1	439.1	442.1	442.1	448.2	448.2	457.1	463.0	466.0	466.0
60°	409.2	409.2	412.2	415.2	421.3	424.2	424.2	430.2	430.2	430.2
61°	382.3	382.3	385.3	388.4	391.4	391.4	397.3	397.3	400.3	403.3
62°	358.4	355.5	355.5	358.4	358.4	364.5	367.5	370.4	373.4	370.4
63°	331.7	328.6	328.6	328.6	328.6	334.6	334.6	337.6	343.6	340.6
64°	301.8	301.8	301.8	301.8	304.8	304.8	310.7	313.7	316.7	319.6
65°	280.8	274.9	271.8	271.8	274.9	277.9	280.8	283.8	286.8	286.8
66°	256.9	251.0	248.0	248.0	248.0	248.0	253.9	253.9	259.9	259.9
67°	230.0	224.1	221.1	218.1	218.1	218.1	227.1	224.1	224.1	224.1
67.5°	221.1	212.1	209.1	206.1	203.1	209.1	206.1	209.1	209.1	206.1
68°	209.1	203.1	197.2	191.2	191.2	191.2	194.2	197.2	194.2	191.2
69°	185.2	182.2	173.3	167.3	164.3	167.3	164.3	167.3	164.3	167.3
70°	164.3	155.3	146.4	143.4	140.4	140.4	140.4	137.4	140.4	137.4
71°	143.4	134.5	125.4	119.5	116.5	116.5	113.5	116.5	113.5	116.5
72°	122.5	113.5	101.6	95.6	95.6	95.6	95.6	92.6	95.6	92.6
72.5°	113.5	101.6	92.6	86.6	83.7	83.7	83.7	83.7	80.7	83.7
73°	104.6	92.6	80.7	77.7	77.7	77.7	74.7	71.6	74.7	74.7



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	35.8	26.9	23.9	23.9	23.9	23.9	23.9	23.9	20.9	20.9
80°	15.0	11.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
82.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
85°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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°	194.2	194.2	188.3	179.2	164.3	149.3	137.4	125.4	110.6	95.6	89.6
75°	179.2	176.2	170.3	161.4	149.3	134.5	122.5	107.6	95.6	80.7	74.7





74°	86.6	71.6	65.7	59.7	59.7	59.7	56.8	56.8	56.8	59.7
75°	68.7	56.8	50.8	44.9	47.8	44.9	47.8	44.9	44.9	44.9



(END OF REPORT)