

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: P593750

Luminaire Tested: **HC840D010-HM82555950-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593750
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-HM82555950-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4568.5 lumens
Efficiency: N/A
Efficacy: 111.4 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

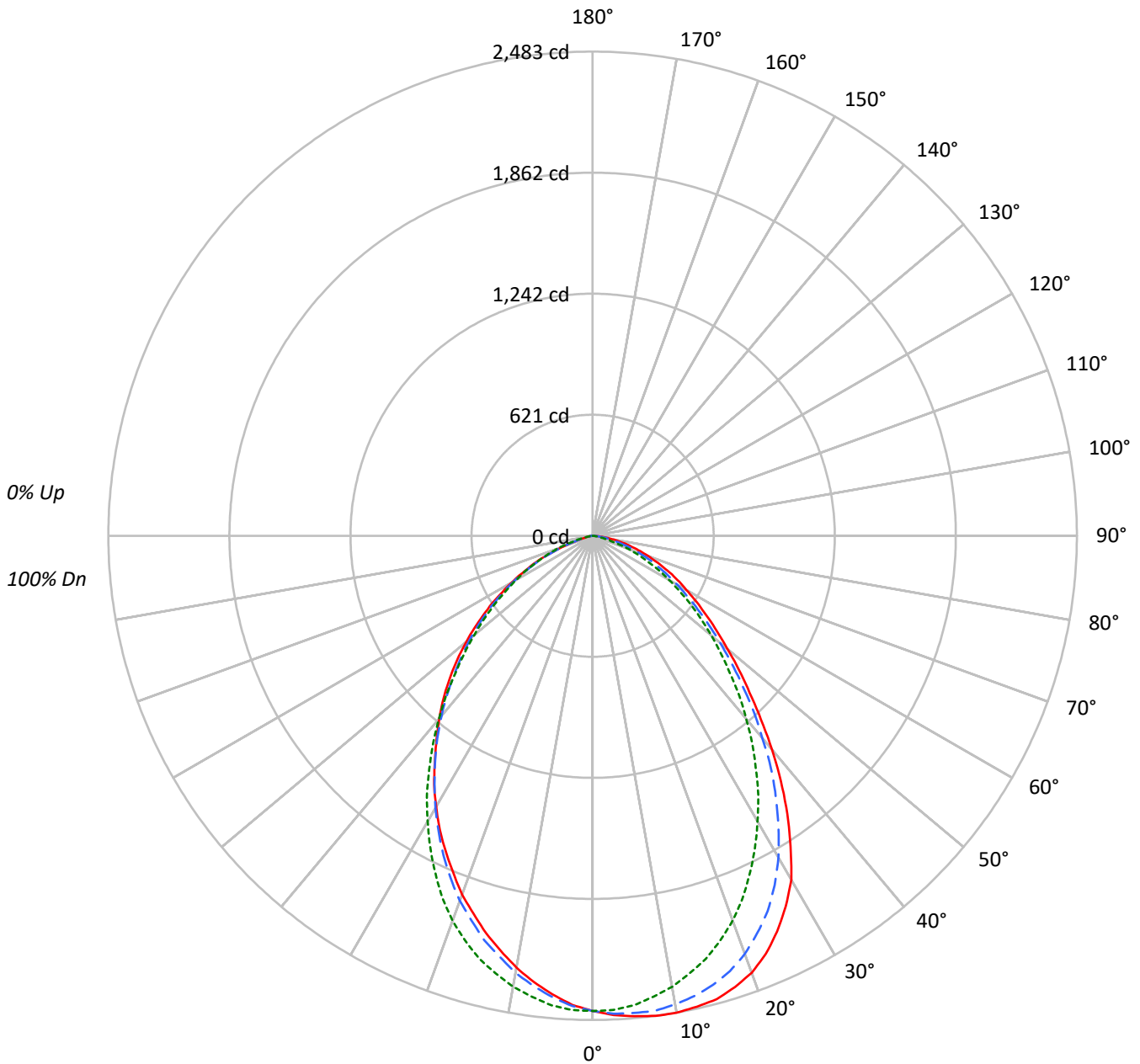
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	75148	75148	75148
5°	76559	74819	73086
10°	77754	73517	70411
15°	78536	71682	67363
20°	78238	68915	64256
25°	76177	64938	60668
30°	72545	60204	57142
35°	65512	54942	53078
40°	57555	49315	49182
45°	49680	43343	45214
50°	43243	38018	40556
55°	38348	33020	35327
60°	34216	27901	29325
65°	30842	22648	23130
70°	27390	16977	13686
75°	23602	9841	5898
80°	18166	3516	1758
85°	11676	1168	1168



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.8	5.0
10°-20°	636.9	13.9
20°-30°	900.7	19.7
30°-40°	949.2	20.8
40°-50°	806.6	17.7
50°-60°	580.9	12.7
60°-70°	335.1	7.3
70°-80°	114.6	2.5
80°-90°	15.7	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°	1766.4	38.7
0°-40°	2715.5	59.4
0°-60°	4103.1	89.8
0°-90°	4568.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4568.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2437	2437	2437	2437	2437	
5°	2473	2457	2417	2374	2361	236
15°	2460	2384	2245	2146	2110	693
25°	2239	2123	1909	1810	1783	1027
35°	1740	1638	1460	1407	1410	1084
45°	1139	1086	994	1001	1037	885
55°	713	657	614	637	657	642
65°	423	363	310	304	317	420
75°	198	149	83	53	50	209
85°	33	20	3	3	3	44
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°	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0
2.5°	2460.1	2463.4	2460.1	2460.1	2456.8	2453.5	2450.2	2446.9	2440.3	2433.7	2433.7
5°	2473.3	2480.0	2473.3	2473.3	2463.4	2456.8	2450.2	2440.3	2427.1	2417.1	2417.1
7.5°	2483.2	2483.2	2483.2	2473.3	2466.8	2456.8	2440.3	2423.8	2407.3	2390.7	2384.2
10°	2483.2	2483.2	2480.0	2466.8	2460.1	2440.3	2423.8	2400.7	2377.5	2354.4	2347.9
12.5°	2473.3	2476.6	2470.0	2456.8	2440.3	2417.1	2394.0	2364.3	2337.9	2311.5	2298.2
15°	2460.1	2456.8	2450.2	2433.7	2413.9	2384.2	2361.1	2328.0	2291.7	2258.6	2245.4
17.5°	2427.1	2427.1	2417.1	2400.7	2374.3	2341.2	2304.9	2268.6	2229.0	2192.6	2176.2
20°	2384.2	2384.2	2371.0	2351.1	2324.7	2281.8	2242.2	2199.2	2152.9	2116.7	2100.1
22.5°	2321.5	2324.7	2308.2	2285.0	2255.4	2205.8	2166.2	2113.3	2067.1	2024.2	2011.0
25°	2238.9	2245.4	2229.0	2205.8	2166.2	2123.3	2073.7	2024.2	1971.4	1928.4	1908.6
27.5°	2143.1	2146.4	2129.9	2106.8	2067.1	2020.9	1971.4	1918.5	1869.0	1822.7	1803.0
30°	2037.4	2024.2	2017.6	1987.9	1944.9	1905.3	1849.1	1806.3	1753.5	1713.8	1690.8
32.5°	1888.8	1895.4	1875.6	1852.5	1819.5	1773.2	1727.0	1677.5	1627.9	1598.3	1581.7
35°	1740.3	1746.8	1736.9	1713.8	1677.5	1637.9	1591.6	1555.3	1512.4	1476.1	1459.5
37.5°	1585.1	1585.1	1578.4	1565.2	1538.8	1502.5	1456.2	1419.9	1383.6	1353.9	1344.0
40°	1429.8	1423.2	1419.9	1410.0	1386.9	1353.9	1324.1	1294.5	1258.1	1238.3	1225.1
42.5°	1277.9	1277.9	1271.3	1261.4	1238.3	1221.8	1192.0	1159.1	1132.6	1112.8	1112.8
45°	1139.2	1142.5	1132.6	1126.0	1112.8	1086.4	1059.9	1036.8	1013.8	1000.6	993.9
47.5°	1017.1	1017.1	1007.1	1000.6	987.3	964.3	941.1	921.3	904.8	894.9	891.5
50°	901.4	901.4	901.4	885.0	868.5	851.9	835.5	812.3	802.4	795.9	792.5
52.5°	802.4	799.1	799.1	785.9	769.5	749.6	733.0	713.3	703.4	696.7	700.1
55°	713.3	713.3	710.0	693.4	677.0	657.1	640.6	624.2	617.5	610.9	614.2
56°	677.0	677.0	673.7	660.4	640.6	624.2	604.3	587.7	577.9	581.2	581.2
57°	650.6	643.9	643.9	627.4	610.9	587.7	571.3	554.8	548.1	544.9	544.9
58°	617.5	614.2	610.9	594.4	577.9	558.1	541.6	525.0	515.2	515.2	511.8
59°	584.5	584.5	577.9	564.7	548.1	528.4	511.8	495.3	485.4	482.1	482.1
60°	554.8	558.1	548.1	534.9	521.7	498.6	478.9	465.6	455.7	452.4	452.4
61°	528.4	528.4	521.7	505.3	488.7	472.2	452.4	435.9	429.2	422.7	422.7
62°	505.3	498.6	495.3	478.9	462.3	442.4	426.0	409.5	399.6	392.9	396.3
63°	475.5	472.2	465.6	452.4	435.9	416.0	396.3	383.1	373.2	363.2	366.5
64°	452.4	449.1	439.2	426.0	409.5	389.6	369.9	356.6	350.0	340.1	336.8
65°	422.7	419.4	416.0	399.6	383.1	363.2	346.8	333.6	323.6	317.0	310.4
66°	396.3	399.6	392.9	379.7	360.0	343.4	320.3	307.1	300.5	290.6	283.9
67°	373.2	373.2	366.5	353.3	333.6	317.0	300.5	283.9	274.1	264.2	260.8
67.5°	360.0	360.0	353.3	336.8	323.6	303.8	287.3	274.1	260.8	254.3	247.6
68°	346.8	346.8	343.4	330.2	313.7	293.9	277.4	260.8	247.6	237.8	234.4
69°	323.6	326.9	320.3	307.1	290.6	270.7	254.3	241.1	227.9	217.9	211.3
70°	303.8	300.5	293.9	280.7	264.2	251.0	234.4	217.9	204.7	191.5	188.3
71°	277.4	277.4	270.7	260.8	244.3	227.9	211.3	198.1	184.9	168.4	165.1
72°	257.5	257.5	251.0	237.8	224.6	208.0	191.5	175.0	165.1	148.6	142.0
72.5°	244.3	247.6	241.1	227.9	214.7	194.8	181.6	168.4	151.8	138.6	132.1
73°	237.8	234.4	231.1	217.9	201.5	188.3	171.7	158.5	142.0	128.8	122.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	148.6	148.6	145.3	132.1	118.9	105.7	92.5	79.3	66.0	52.8	46.2
80°	102.3	105.7	99.0	92.5	82.6	69.4	56.2	46.2	33.0	26.4	19.8
82.5°	66.0	66.0	62.7	56.2	49.5	39.6	33.0	23.1	16.5	13.2	9.9
85°	33.0	36.3	33.0	29.8	23.1	19.8	16.5	9.9	6.5	3.3	3.3
87.5°	13.2	13.2	13.2	9.9	9.9	6.5	3.3	3.3	3.3	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°	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0	2437.0
2.5°	2427.1	2427.1	2420.5	2417.1	2413.9	2410.6	2407.3	2403.9	2403.9	2407.3
5°	2407.3	2400.7	2387.5	2384.2	2374.3	2371.0	2364.3	2361.1	2364.3	2361.1
7.5°	2377.5	2364.3	2347.9	2341.2	2328.0	2321.5	2311.5	2311.5	2304.9	2308.2
10°	2337.9	2318.1	2298.2	2285.0	2275.2	2265.3	2258.6	2252.1	2248.7	2248.7
12.5°	2288.4	2265.3	2245.4	2225.7	2209.1	2202.6	2189.4	2189.4	2182.7	2179.4
15°	2232.2	2202.6	2179.4	2159.6	2146.4	2133.2	2123.3	2116.7	2110.1	2110.1
17.5°	2159.6	2133.2	2110.1	2086.9	2067.1	2057.3	2047.3	2037.4	2037.4	2030.9
20°	2080.4	2050.6	2030.9	2007.6	1991.2	1974.7	1961.5	1961.5	1954.8	1958.1
22.5°	1991.2	1954.8	1935.1	1918.5	1902.0	1888.8	1875.6	1875.6	1872.3	1869.0
25°	1892.1	1862.4	1839.3	1819.5	1809.5	1796.3	1793.1	1786.4	1783.1	1783.1
27.5°	1786.4	1763.3	1733.6	1723.7	1710.5	1704.0	1704.0	1700.6	1694.0	1697.3
30°	1674.2	1647.8	1631.3	1624.7	1611.5	1611.5	1608.2	1601.5	1601.5	1604.8
32.5°	1565.2	1538.8	1525.6	1522.2	1509.0	1509.0	1505.8	1509.0	1509.0	1512.4
35°	1446.3	1423.2	1419.9	1410.0	1406.7	1406.7	1406.7	1413.4	1419.9	1410.0
37.5°	1334.1	1317.6	1307.7	1304.4	1307.7	1307.7	1310.9	1320.9	1317.6	1314.2
40°	1218.4	1205.2	1198.7	1198.7	1205.2	1211.9	1211.9	1221.8	1225.1	1221.8
42.5°	1102.9	1093.0	1093.0	1096.3	1102.9	1106.2	1116.1	1126.0	1129.3	1132.6
45°	993.9	993.9	993.9	997.2	1000.6	1007.1	1020.3	1030.3	1033.5	1036.8
47.5°	888.2	885.0	894.9	898.2	908.1	911.4	921.3	934.5	937.8	941.1
50°	789.2	795.9	799.1	809.1	815.6	815.6	828.8	835.5	845.4	845.4
52.5°	696.7	706.6	710.0	719.8	723.2	726.5	733.0	743.0	749.6	749.6
55°	614.2	617.5	624.2	627.4	637.4	640.6	647.2	650.6	660.4	657.1
56°	577.9	584.5	587.7	594.4	600.9	604.3	610.9	614.2	620.8	624.2
57°	544.9	548.1	558.1	561.3	568.0	568.0	571.3	581.2	581.2	584.5
58°	511.8	518.5	521.7	525.0	531.7	534.9	541.6	544.9	548.1	544.9
59°	482.1	485.4	488.7	488.7	495.3	495.3	505.3	511.8	515.2	515.2
60°	452.4	452.4	455.7	459.0	465.6	468.9	468.9	475.5	475.5	475.5
61°	422.7	422.7	426.0	429.2	432.6	432.6	439.2	439.2	442.4	445.8
62°	396.3	392.9	392.9	396.3	396.3	402.8	406.1	409.5	412.8	409.5
63°	366.5	363.2	363.2	363.2	363.2	369.9	369.9	373.2	379.7	376.4
64°	333.6	333.6	333.6	333.6	336.8	336.8	343.4	346.8	350.0	353.3
65°	310.4	303.8	300.5	300.5	303.8	307.1	310.4	313.7	317.0	317.0
66°	283.9	277.4	274.1	274.1	274.1	274.1	280.7	280.7	287.3	287.3
67°	254.3	247.6	244.3	241.1	241.1	241.1	251.0	247.6	247.6	247.6
67.5°	244.3	234.4	231.1	227.9	224.6	231.1	227.9	231.1	231.1	227.9
68°	231.1	224.6	217.9	211.3	211.3	211.3	214.7	217.9	214.7	211.3
69°	204.7	201.5	191.5	184.9	181.6	184.9	181.6	184.9	181.6	184.9
70°	181.6	171.7	161.8	158.5	155.2	155.2	155.2	151.8	155.2	151.8
71°	158.5	148.6	138.6	132.1	128.8	128.8	125.4	128.8	125.4	128.8
72°	135.4	125.4	112.2	105.7	105.7	105.7	105.7	102.3	105.7	102.3
72.5°	125.4	112.2	102.3	95.8	92.5	92.5	92.5	92.5	89.1	92.5
73°	115.5	102.3	89.1	85.8	85.8	85.8	82.6	79.3	82.6	82.6



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	39.6	29.8	26.4	26.4	26.4	26.4	26.4	26.4	23.1	23.1
80°	16.5	13.2	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
82.5°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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°	214.7	214.7	208.0	198.1	181.6	165.1	151.8	138.6	122.2	105.7	99.0
75°	198.1	194.8	188.3	178.3	165.1	148.6	135.4	118.9	105.7	89.1	82.6





74°	95.8	79.3	72.6	66.0	66.0	66.0	62.7	62.7	62.7	66.0
75°	75.9	62.7	56.2	49.5	52.8	49.5	52.8	49.5	49.5	49.5



(END OF REPORT)