

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: P593716

Luminaire Tested: **HC835D010-HM82555950-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593716  
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: HC835D010-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: 3943.1 lumens  
Efficiency: N/A  
Efficacy: 117.0 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

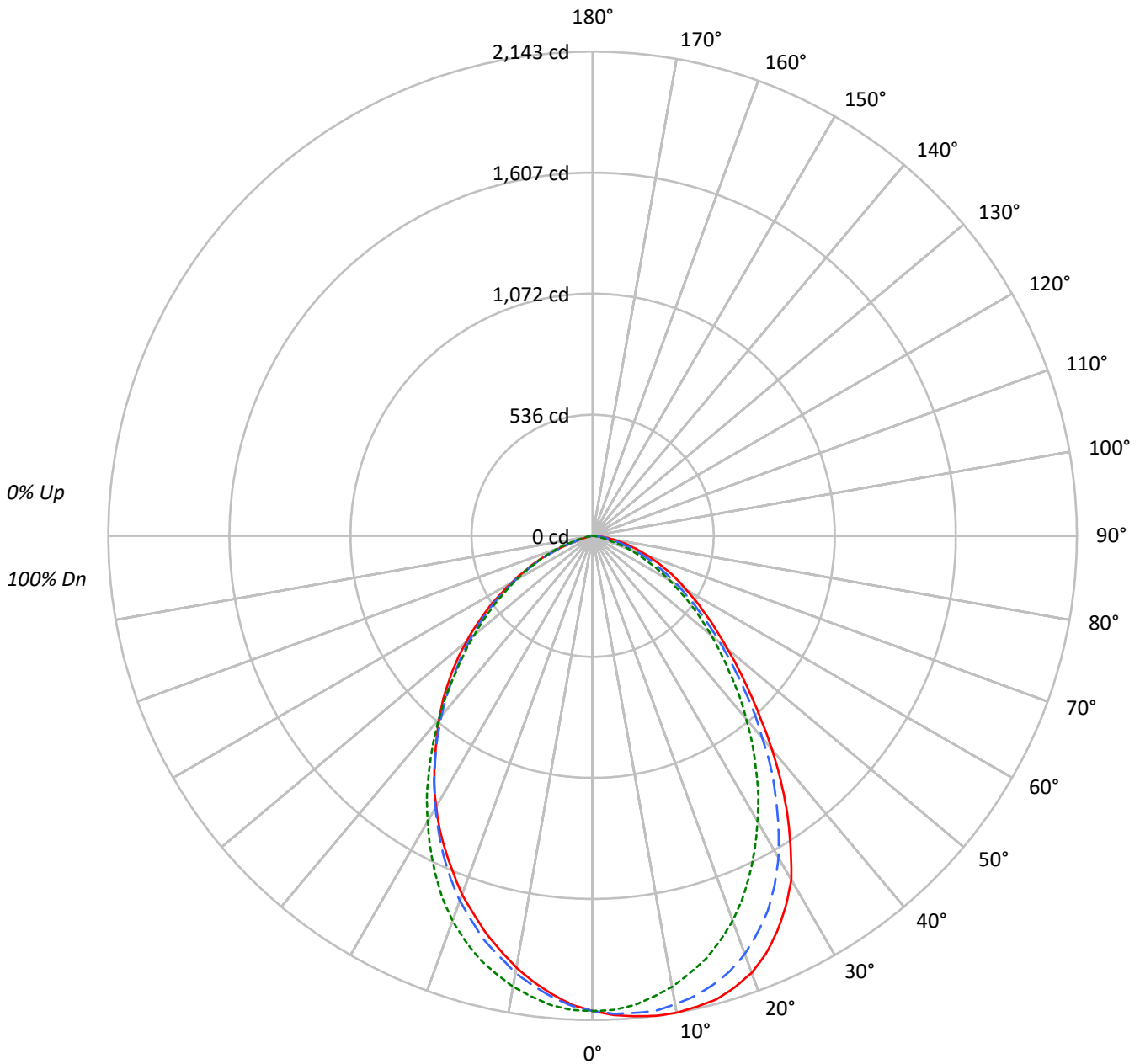
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	64858	64858	64858
5°	66078	64576	63078
10°	67108	63451	60773
15°	67784	61869	58140
20°	67524	59481	55458
25°	65748	56051	52367
30°	62611	51957	49319
35°	56538	47420	45809
40°	49677	42565	42448
45°	42881	37412	39026
50°	37328	32818	35001
55°	33101	28499	30488
60°	29529	24077	25310
65°	26618	19547	19963
70°	23640	14642	11820
75°	20373	8495	5099
80°	15680	3037	1509
85°	10084	1026	1026



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.4	5.0
10°-20°	549.7	13.9
20°-30°	777.4	19.7
30°-40°	819.2	20.8
40°-50°	696.2	17.7
50°-60°	501.3	12.7
60°-70°	289.2	7.3
70°-80°	98.9	2.5
80°-90°	13.6	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°	1524.5	38.7
0°-40°	2343.7	59.4
0°-60°	3541.3	89.8
0°-90°	3943.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3943.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2103	2103	2103	2103	2103	
5°	2135	2120	2086	2049	2038	204
15°	2123	2058	1938	1852	1821	598
25°	1932	1833	1647	1562	1539	886
35°	1502	1414	1260	1214	1217	935
45°	983	938	858	864	895	764
55°	616	567	530	550	567	554
65°	365	314	268	262	274	363
75°	171	128	71	46	43	180
85°	28	17	3	3	3	38
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°	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3
2.5°	2123.3	2126.1	2123.3	2123.3	2120.5	2117.6	2114.7	2111.8	2106.2	2100.5	2100.5
5°	2134.7	2140.3	2134.7	2134.7	2126.1	2120.5	2114.7	2106.2	2094.8	2086.2	2086.2
7.5°	2143.2	2143.2	2143.2	2134.7	2129.0	2120.5	2106.2	2091.9	2077.7	2063.4	2057.7
10°	2143.2	2143.2	2140.3	2129.0	2123.3	2106.2	2091.9	2071.9	2052.1	2032.0	2026.4
12.5°	2134.7	2137.5	2131.8	2120.5	2106.2	2086.2	2066.3	2040.7	2017.8	1995.0	1983.6
15°	2123.3	2120.5	2114.7	2100.5	2083.3	2057.7	2037.8	2009.3	1977.9	1949.4	1938.0
17.5°	2094.8	2094.8	2086.2	2071.9	2049.2	2020.7	1989.3	1958.0	1923.7	1892.5	1878.2
20°	2057.7	2057.7	2046.3	2029.2	2006.4	1969.4	1935.1	1898.1	1858.2	1826.8	1812.6
22.5°	2003.5	2006.4	1992.2	1972.3	1946.6	1903.9	1869.6	1824.1	1784.2	1747.0	1735.7
25°	1932.4	1938.0	1923.7	1903.9	1869.6	1832.6	1789.8	1747.0	1701.5	1664.4	1647.4
27.5°	1849.7	1852.5	1838.3	1818.3	1784.2	1744.2	1701.5	1655.9	1613.1	1573.2	1556.1
30°	1758.4	1747.0	1741.4	1715.8	1678.6	1644.5	1596.0	1559.0	1513.3	1479.2	1459.2
32.5°	1630.2	1635.9	1618.9	1598.9	1570.3	1530.4	1490.6	1447.8	1405.0	1379.4	1365.1
35°	1501.9	1507.7	1499.2	1479.2	1447.8	1413.6	1373.7	1342.4	1305.3	1274.0	1259.7
37.5°	1368.0	1368.0	1362.4	1350.9	1328.1	1296.7	1256.8	1225.6	1194.2	1168.5	1160.0
40°	1234.1	1228.3	1225.6	1216.9	1197.0	1168.5	1142.9	1117.3	1085.9	1068.7	1057.4
42.5°	1103.0	1103.0	1097.2	1088.7	1068.7	1054.5	1028.8	1000.3	977.6	960.4	960.4
45°	983.3	986.1	977.6	971.8	960.4	937.7	914.9	894.9	875.0	863.5	857.9
47.5°	877.8	877.8	869.3	863.5	852.1	832.3	812.2	795.1	780.9	772.4	769.5
50°	778.1	778.1	778.1	763.8	749.6	735.3	721.1	701.1	692.6	686.8	684.1
52.5°	692.6	689.7	689.7	678.3	664.1	646.9	632.7	615.7	607.0	601.4	604.2
55°	615.7	615.7	612.8	598.5	584.3	567.1	552.9	538.6	533.0	527.2	530.1
56°	584.3	584.3	581.4	570.0	552.9	538.6	521.6	507.4	498.7	501.6	501.6
57°	561.5	555.8	555.8	541.5	527.2	507.4	493.1	478.8	473.1	470.2	470.2
58°	533.0	530.1	527.2	513.0	498.7	481.7	467.5	453.2	444.6	444.6	441.7
59°	504.5	504.5	498.7	487.3	473.1	456.0	441.7	427.4	418.9	416.1	416.1
60°	478.8	481.7	473.1	461.7	450.3	430.3	413.3	401.8	393.3	390.4	390.4
61°	456.0	456.0	450.3	436.1	421.8	407.6	390.4	376.2	370.5	364.8	364.8
62°	436.1	430.3	427.4	413.3	399.1	381.9	367.7	353.4	344.9	339.2	342.0
63°	410.4	407.6	401.8	390.4	376.2	359.2	342.0	330.6	322.0	313.5	316.4
64°	390.4	387.6	379.0	367.7	353.4	336.3	319.1	307.8	302.1	293.5	290.8
65°	364.8	361.9	359.2	344.9	330.6	313.5	299.3	287.9	279.3	273.6	267.9
66°	342.0	344.9	339.2	327.8	310.6	296.4	276.5	265.0	259.4	250.9	245.1
67°	322.0	322.0	316.4	305.0	287.9	273.6	259.4	245.1	236.6	228.0	225.1
67.5°	310.6	310.6	305.0	290.8	279.3	262.2	248.0	236.6	225.1	219.5	213.7
68°	299.3	299.3	296.4	285.0	270.7	253.6	239.4	225.1	213.7	205.2	202.3
69°	279.3	282.1	276.5	265.0	250.9	233.7	219.5	208.1	196.7	188.1	182.5
70°	262.2	259.4	253.6	242.2	228.0	216.6	202.3	188.1	176.7	165.3	162.4
71°	239.4	239.4	233.7	225.1	210.8	196.7	182.5	171.0	159.6	145.3	142.4
72°	222.3	222.3	216.6	205.2	193.8	179.6	165.3	151.1	142.4	128.3	122.6
72.5°	210.8	213.7	208.1	196.7	185.2	168.2	156.7	145.3	131.1	119.7	114.0
73°	205.2	202.3	199.5	188.1	173.8	162.4	148.2	136.8	122.6	111.2	105.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	128.3	128.3	125.4	114.0	102.5	91.2	79.8	68.4	57.0	45.6	39.9
80°	88.3	91.2	85.5	79.8	71.3	59.9	48.4	39.9	28.5	22.8	17.1
82.5°	57.0	57.0	54.1	48.4	42.8	34.1	28.5	20.0	14.3	11.4	8.5
85°	28.5	31.4	28.5	25.6	20.0	17.1	14.3	8.5	5.8	2.9	2.9
87.5°	11.4	11.4	11.4	8.5	8.5	5.8	2.9	2.9	2.9	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°	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3	2103.3
2.5°	2094.8	2094.8	2089.1	2086.2	2083.3	2080.6	2077.7	2074.8	2074.8	2077.7
5°	2077.7	2071.9	2060.6	2057.7	2049.2	2046.3	2040.7	2037.8	2040.7	2037.8
7.5°	2052.1	2040.7	2026.4	2020.7	2009.3	2003.5	1995.0	1995.0	1989.3	1992.2
10°	2017.8	2000.8	1983.6	1972.3	1963.6	1955.1	1949.4	1943.8	1940.9	1940.9
12.5°	1975.0	1955.1	1938.0	1920.9	1906.6	1901.0	1889.6	1889.6	1883.9	1881.0
15°	1926.6	1901.0	1881.0	1864.0	1852.5	1841.1	1832.6	1826.8	1821.2	1821.2
17.5°	1864.0	1841.1	1821.2	1801.2	1784.2	1775.6	1767.0	1758.4	1758.4	1752.8
20°	1795.6	1769.9	1752.8	1732.8	1718.5	1704.3	1692.9	1692.9	1687.3	1690.0
22.5°	1718.5	1687.3	1670.1	1655.9	1641.6	1630.2	1618.9	1618.9	1616.0	1613.1
25°	1633.1	1607.5	1587.5	1570.3	1561.8	1550.5	1547.6	1541.8	1539.1	1539.1
27.5°	1541.8	1521.9	1496.3	1487.7	1476.3	1470.7	1470.7	1467.8	1462.0	1464.9
30°	1445.0	1422.1	1407.9	1402.3	1390.8	1390.8	1388.0	1382.3	1382.3	1385.1
32.5°	1350.9	1328.1	1316.7	1313.8	1302.5	1302.5	1299.6	1302.5	1302.5	1305.3
35°	1248.3	1228.3	1225.6	1216.9	1214.2	1214.2	1214.2	1219.8	1225.6	1216.9
37.5°	1151.4	1137.1	1128.6	1125.8	1128.6	1128.6	1131.5	1140.0	1137.1	1134.3
40°	1051.6	1040.2	1034.6	1034.6	1040.2	1046.0	1046.0	1054.5	1057.4	1054.5
42.5°	951.9	943.3	943.3	946.2	951.9	954.8	963.3	971.8	974.7	977.6
45°	857.9	857.9	857.9	860.8	863.5	869.3	880.6	889.2	892.0	894.9
47.5°	766.6	763.8	772.4	775.2	783.7	786.6	795.1	806.6	809.4	812.2
50°	681.2	686.8	689.7	698.3	703.9	703.9	715.3	721.1	729.6	729.6
52.5°	601.4	609.9	612.8	621.3	624.2	627.0	632.7	641.3	646.9	646.9
55°	530.1	533.0	538.6	541.5	550.0	552.9	558.6	561.5	570.0	567.1
56°	498.7	504.5	507.4	513.0	518.7	521.6	527.2	530.1	535.9	538.6
57°	470.2	473.1	481.7	484.5	490.2	490.2	493.1	501.6	501.6	504.5
58°	441.7	447.5	450.3	453.2	458.8	461.7	467.5	470.2	473.1	470.2
59°	416.1	418.9	421.8	421.8	427.4	427.4	436.1	441.7	444.6	444.6
60°	390.4	390.4	393.3	396.2	401.8	404.7	404.7	410.4	410.4	410.4
61°	364.8	364.8	367.7	370.5	373.3	373.3	379.0	379.0	381.9	384.8
62°	342.0	339.2	339.2	342.0	342.0	347.7	350.5	353.4	356.3	353.4
63°	316.4	313.5	313.5	313.5	313.5	319.1	319.1	322.0	327.8	324.9
64°	287.9	287.9	287.9	287.9	290.8	290.8	296.4	299.3	302.1	305.0
65°	267.9	262.2	259.4	259.4	262.2	265.0	267.9	270.7	273.6	273.6
66°	245.1	239.4	236.6	236.6	236.6	236.6	242.2	242.2	248.0	248.0
67°	219.5	213.7	210.8	208.1	208.1	208.1	216.6	213.7	213.7	213.7
67.5°	210.8	202.3	199.5	196.7	193.8	199.5	196.7	199.5	199.5	196.7
68°	199.5	193.8	188.1	182.5	182.5	182.5	185.2	188.1	185.2	182.5
69°	176.7	173.8	165.3	159.6	156.7	159.6	156.7	159.6	156.7	159.6
70°	156.7	148.2	139.7	136.8	133.9	133.9	133.9	131.1	133.9	131.1
71°	136.8	128.3	119.7	114.0	111.2	111.2	108.3	111.2	108.3	111.2
72°	116.8	108.3	96.9	91.2	91.2	91.2	91.2	88.3	91.2	88.3
72.5°	108.3	96.9	88.3	82.7	79.8	79.8	79.8	79.8	76.9	79.8
73°	99.8	88.3	76.9	74.2	74.2	74.2	71.3	68.4	71.3	71.3





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	34.1	25.6	22.8	22.8	22.8	22.8	22.8	22.8	20.0	20.0
80°	14.3	11.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
82.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
85°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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°	185.2	185.2	179.6	171.0	156.7	142.4	131.1	119.7	105.4	91.2	85.5
75°	171.0	168.2	162.4	153.9	142.4	128.3	116.8	102.5	91.2	76.9	71.3







74°	82.7	68.4	62.7	57.0	57.0	57.0	54.1	54.1	54.1	57.0
75°	65.5	54.1	48.4	42.8	45.6	42.8	45.6	42.8	42.8	42.8



(END OF REPORT)