

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: P593699

Luminaire Tested: **HC835D010-HM82555850-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593699  
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-HM82555850-81RWWH  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4143.0 lumens  
Efficiency: N/A  
Efficacy: 122.9 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

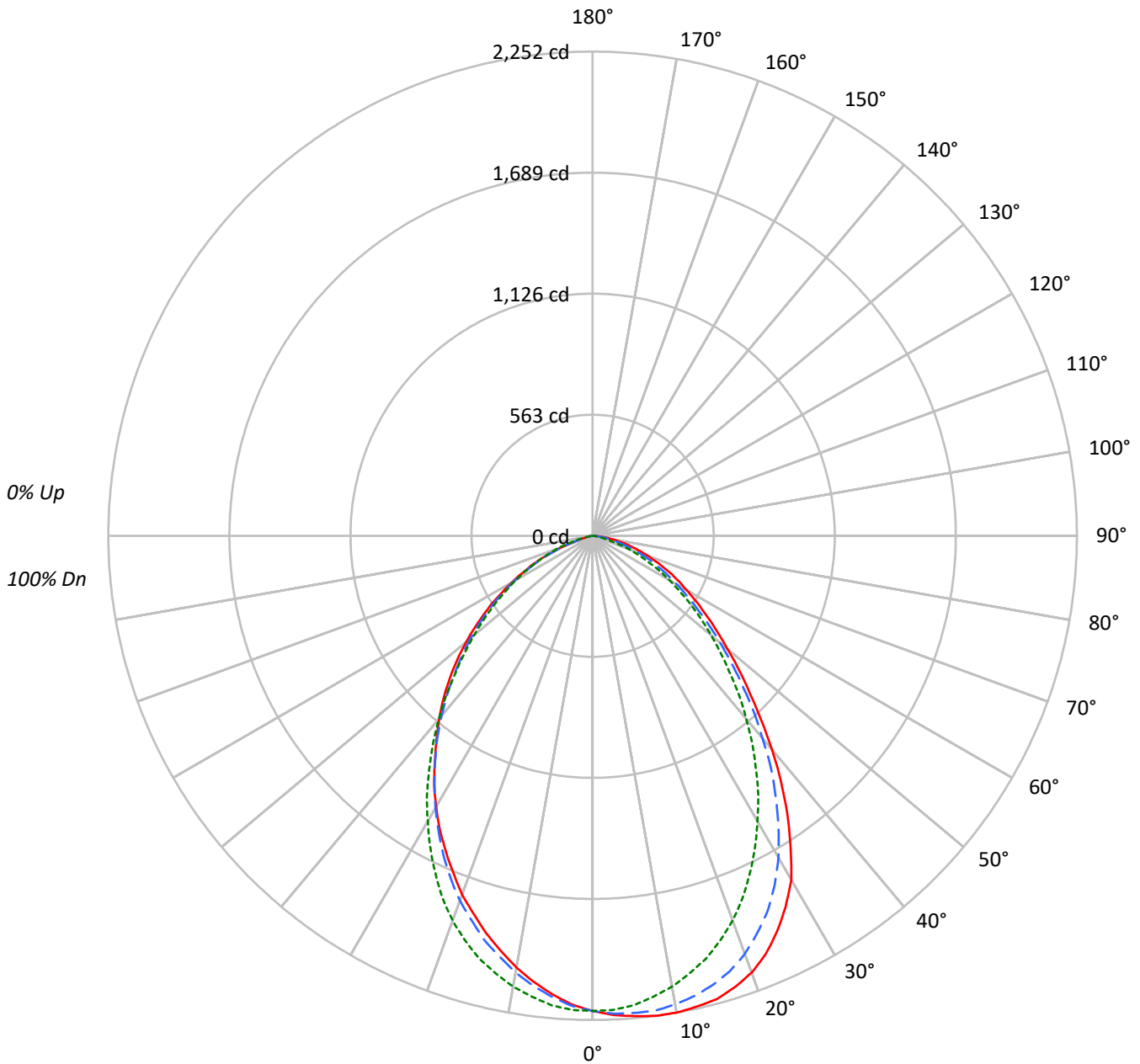
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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								
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°	68148	68148	68148
5°	69427	67851	66276
10°	70512	66666	63851
15°	71219	65004	61084
20°	70947	62497	58273
25°	69079	58892	55020
30°	65787	54592	51818
35°	59406	49826	48132
40°	52193	44718	44597
45°	45057	39309	41006
50°	39218	34478	36776
55°	34773	29945	32036
60°	31021	25298	26593
65°	27960	20540	20977
70°	24839	15390	12424
75°	21410	8924	5349
80°	16479	3196	1598
85°	10614	1061	1061



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.5	5.0
10°-20°	577.5	13.9
20°-30°	816.8	19.7
30°-40°	860.7	20.8
40°-50°	731.5	17.7
50°-60°	526.7	12.7
60°-70°	303.9	7.3
70°-80°	104.0	2.5
80°-90°	14.3	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°	1601.8	38.7
0°-40°	2462.5	59.4
0°-60°	3720.8	89.8
0°-90°	4143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4143.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2210	2210	2210	2210	2210	
5°	2243	2228	2192	2153	2141	214
15°	2231	2162	2036	1946	1913	628
25°	2030	1925	1731	1641	1617	931
35°	1578	1485	1324	1276	1279	983
45°	1033	985	901	907	940	803
55°	647	596	557	578	596	582
65°	383	329	282	276	288	381
75°	180	135	75	48	45	190
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°	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0
2.5°	2230.9	2233.9	2230.9	2230.9	2227.9	2224.9	2221.9	2218.9	2212.9	2207.0	2207.0
5°	2242.9	2248.9	2242.9	2242.9	2233.9	2227.9	2221.9	2212.9	2201.0	2192.0	2192.0
7.5°	2251.9	2251.9	2251.9	2242.9	2236.9	2227.9	2212.9	2198.0	2183.0	2168.0	2162.0
10°	2251.9	2251.9	2248.9	2236.9	2230.9	2212.9	2198.0	2177.0	2156.0	2135.1	2129.1
12.5°	2242.9	2245.9	2239.9	2227.9	2212.9	2192.0	2171.0	2144.1	2120.1	2096.1	2084.2
15°	2230.9	2227.9	2221.9	2207.0	2189.0	2162.0	2141.1	2111.1	2078.2	2048.2	2036.2
17.5°	2201.0	2201.0	2192.0	2177.0	2153.0	2123.1	2090.2	2057.2	2021.3	1988.3	1973.3
20°	2162.0	2162.0	2150.1	2132.1	2108.1	2069.2	2033.2	1994.3	1952.4	1919.4	1904.5
22.5°	2105.1	2108.1	2093.1	2072.2	2045.2	2000.3	1964.4	1916.4	1874.5	1835.6	1823.6
25°	2030.3	2036.2	2021.3	2000.3	1964.4	1925.4	1880.5	1835.6	1787.7	1748.8	1730.9
27.5°	1943.4	1946.4	1931.4	1910.5	1874.5	1832.6	1787.7	1739.9	1694.9	1653.0	1635.0
30°	1847.6	1835.6	1829.6	1802.6	1763.8	1727.9	1677.0	1638.0	1590.1	1554.2	1533.2
32.5°	1712.9	1718.9	1700.9	1680.0	1650.0	1608.1	1566.1	1521.2	1476.3	1449.3	1434.4
35°	1578.1	1584.1	1575.1	1554.2	1521.2	1485.3	1443.4	1410.4	1371.5	1338.5	1323.6
37.5°	1437.4	1437.4	1431.4	1419.4	1395.4	1362.5	1320.6	1287.6	1254.7	1227.7	1218.7
40°	1296.6	1290.6	1287.6	1278.6	1257.7	1227.7	1200.8	1173.8	1140.9	1122.9	1110.9
42.5°	1158.8	1158.8	1152.8	1143.9	1122.9	1107.9	1081.0	1051.1	1027.2	1009.2	1009.2
45°	1033.2	1036.2	1027.2	1021.2	1009.2	985.2	961.3	940.3	919.3	907.4	901.4
47.5°	922.3	922.3	913.4	907.4	895.4	874.4	853.5	835.5	820.5	811.5	808.5
50°	817.5	817.5	817.5	802.5	787.6	772.6	757.6	736.7	727.7	721.7	718.7
52.5°	727.7	724.7	724.7	712.7	697.7	679.7	664.8	646.8	637.8	631.8	634.8
55°	646.8	646.8	643.8	628.8	613.9	595.9	580.9	565.9	559.9	554.0	557.0
56°	613.9	613.9	610.9	598.9	580.9	565.9	548.0	533.0	524.0	527.0	527.0
57°	589.9	583.9	583.9	568.9	554.0	533.0	518.0	503.0	497.1	494.1	494.1
58°	559.9	557.0	554.0	539.0	524.0	506.0	491.1	476.1	467.1	467.1	464.1
59°	530.0	530.0	524.0	512.0	497.1	479.1	464.1	449.1	440.1	437.2	437.2
60°	503.0	506.0	497.1	485.1	473.1	452.1	434.2	422.2	413.2	410.2	410.2
61°	479.1	479.1	473.1	458.1	443.1	428.2	410.2	395.2	389.2	383.2	383.2
62°	458.1	452.1	449.1	434.2	419.2	401.2	386.2	371.3	362.3	356.3	359.3
63°	431.2	428.2	422.2	410.2	395.2	377.3	359.3	347.4	338.4	329.4	332.4
64°	410.2	407.2	398.2	386.2	371.3	353.4	335.4	323.5	317.5	308.5	305.5
65°	383.2	380.2	377.3	362.3	347.4	329.4	314.5	302.5	293.5	287.5	281.5
66°	359.3	362.3	356.3	344.4	326.5	311.5	290.5	278.5	272.5	263.6	257.6
67°	338.4	338.4	332.4	320.5	302.5	287.5	272.5	257.6	248.6	239.6	236.6
67.5°	326.5	326.5	320.5	305.5	293.5	275.5	260.6	248.6	236.6	230.6	224.6
68°	314.5	314.5	311.5	299.5	284.5	266.6	251.6	236.6	224.6	215.6	212.6
69°	293.5	296.5	290.5	278.5	263.6	245.6	230.6	218.6	206.7	197.7	191.7
70°	275.5	272.5	266.6	254.6	239.6	227.6	212.6	197.7	185.7	173.7	170.7
71°	251.6	251.6	245.6	236.6	221.6	206.7	191.7	179.7	167.7	152.7	149.8
72°	233.6	233.6	227.6	215.6	203.7	188.7	173.7	158.7	149.8	134.8	128.8
72.5°	221.6	224.6	218.6	206.7	194.7	176.7	164.7	152.7	137.8	125.8	119.8
73°	215.6	212.6	209.6	197.7	182.7	170.7	155.7	143.8	128.8	116.8	110.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	134.8	134.8	131.8	119.8	107.8	95.8	83.9	71.9	59.9	47.9	41.9
80°	92.8	95.8	89.8	83.9	74.9	62.9	50.9	41.9	30.0	24.0	18.0
82.5°	59.9	59.9	56.9	50.9	44.9	35.9	30.0	21.0	15.0	12.0	9.0
85°	30.0	32.9	30.0	27.0	21.0	18.0	15.0	9.0	6.0	3.0	3.0
87.5°	12.0	12.0	12.0	9.0	9.0	6.0	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°	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0	2210.0
2.5°	2201.0	2201.0	2195.0	2192.0	2189.0	2186.0	2183.0	2180.0	2180.0	2183.0
5°	2183.0	2177.0	2165.0	2162.0	2153.0	2150.1	2144.1	2141.1	2144.1	2141.1
7.5°	2156.0	2144.1	2129.1	2123.1	2111.1	2105.1	2096.1	2096.1	2090.2	2093.1
10°	2120.1	2102.1	2084.2	2072.2	2063.2	2054.2	2048.2	2042.2	2039.2	2039.2
12.5°	2075.2	2054.2	2036.2	2018.3	2003.3	1997.3	1985.3	1985.3	1979.3	1976.3
15°	2024.3	1997.3	1976.3	1958.4	1946.4	1934.4	1925.4	1919.4	1913.4	1913.4
17.5°	1958.4	1934.4	1913.4	1892.5	1874.5	1865.5	1856.5	1847.6	1847.6	1841.6
20°	1886.5	1859.5	1841.6	1820.6	1805.6	1790.7	1778.7	1778.7	1772.8	1775.8
22.5°	1805.6	1772.8	1754.8	1739.9	1724.9	1712.9	1700.9	1700.9	1697.9	1694.9
25°	1715.9	1688.9	1668.0	1650.0	1641.0	1629.0	1626.0	1620.1	1617.1	1617.1
27.5°	1620.1	1599.1	1572.1	1563.2	1551.2	1545.2	1545.2	1542.2	1536.2	1539.2
30°	1518.2	1494.3	1479.3	1473.3	1461.3	1461.3	1458.3	1452.3	1452.3	1455.3
32.5°	1419.4	1395.4	1383.5	1380.5	1368.5	1368.5	1365.5	1368.5	1368.5	1371.5
35°	1311.6	1290.6	1287.6	1278.6	1275.6	1275.6	1275.6	1281.6	1287.6	1278.6
37.5°	1209.7	1194.8	1185.8	1182.8	1185.8	1185.8	1188.8	1197.8	1194.8	1191.8
40°	1104.9	1092.9	1086.9	1086.9	1092.9	1098.9	1098.9	1107.9	1110.9	1107.9
42.5°	1000.2	991.2	991.2	994.2	1000.2	1003.2	1012.2	1021.2	1024.2	1027.2
45°	901.4	901.4	901.4	904.4	907.4	913.4	925.3	934.3	937.3	940.3
47.5°	805.5	802.5	811.5	814.5	823.5	826.5	835.5	847.5	850.5	853.5
50°	715.7	721.7	724.7	733.7	739.6	739.6	751.6	757.6	766.6	766.6
52.5°	631.8	640.8	643.8	652.8	655.8	658.8	664.8	673.8	679.7	679.7
55°	557.0	559.9	565.9	568.9	577.9	580.9	586.9	589.9	598.9	595.9
56°	524.0	530.0	533.0	539.0	545.0	548.0	554.0	557.0	562.9	565.9
57°	494.1	497.1	506.0	509.0	515.0	515.0	518.0	527.0	527.0	530.0
58°	464.1	470.1	473.1	476.1	482.1	485.1	491.1	494.1	497.1	494.1
59°	437.2	440.1	443.1	443.1	449.1	449.1	458.1	464.1	467.1	467.1
60°	410.2	410.2	413.2	416.2	422.2	425.2	425.2	431.2	431.2	431.2
61°	383.2	383.2	386.2	389.2	392.2	392.2	398.2	398.2	401.2	404.2
62°	359.3	356.3	356.3	359.3	359.3	365.3	368.3	371.3	374.3	371.3
63°	332.4	329.4	329.4	329.4	329.4	335.4	335.4	338.4	344.4	341.4
64°	302.5	302.5	302.5	302.5	305.5	305.5	311.5	314.5	317.5	320.5
65°	281.5	275.5	272.5	272.5	275.5	278.5	281.5	284.5	287.5	287.5
66°	257.6	251.6	248.6	248.6	248.6	248.6	254.6	254.6	260.6	260.6
67°	230.6	224.6	221.6	218.6	218.6	218.6	227.6	224.6	224.6	224.6
67.5°	221.6	212.6	209.6	206.7	203.7	209.6	206.7	209.6	209.6	206.7
68°	209.6	203.7	197.7	191.7	191.7	191.7	194.7	197.7	194.7	191.7
69°	185.7	182.7	173.7	167.7	164.7	167.7	164.7	167.7	164.7	167.7
70°	164.7	155.7	146.8	143.8	140.8	140.8	140.8	137.8	140.8	137.8
71°	143.8	134.8	125.8	119.8	116.8	116.8	113.8	116.8	113.8	116.8
72°	122.8	113.8	101.8	95.8	95.8	95.8	95.8	92.8	95.8	92.8
72.5°	113.8	101.8	92.8	86.9	83.9	83.9	83.9	83.9	80.9	83.9
73°	104.8	92.8	80.9	77.9	77.9	77.9	74.9	71.9	74.9	74.9





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	35.9	27.0	24.0	24.0	24.0	24.0	24.0	24.0	21.0	21.0
80°	15.0	12.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
82.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
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°	194.7	194.7	188.7	179.7	164.7	149.8	137.8	125.8	110.8	95.8	89.8
75°	179.7	176.7	170.7	161.7	149.8	134.8	122.8	107.8	95.8	80.9	74.9







74°	86.9	71.9	65.9	59.9	59.9	59.9	56.9	56.9	56.9	59.9
75°	68.9	56.9	50.9	44.9	47.9	44.9	47.9	44.9	44.9	44.9



(END OF REPORT)