

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: P584481

Luminaire Tested: **HC835D010-HM82555935-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584481  
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-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: 3567.3 lumens  
Efficiency: N/A  
Efficacy: 105.9 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

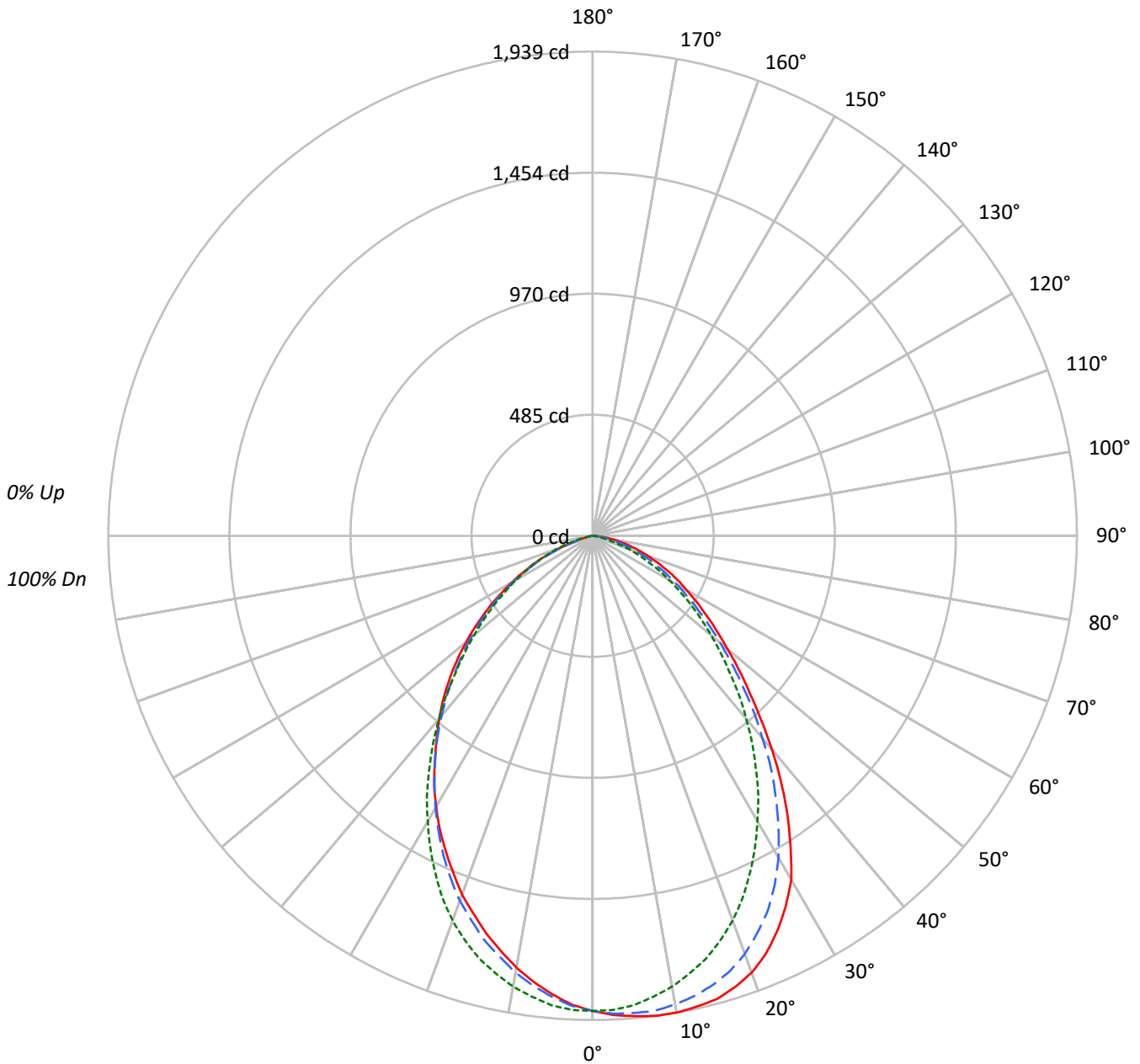
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	58678	58678	58678
5°	59779	58420	57067
10°	60714	57401	54981
15°	61323	55973	52598
20°	61089	53811	50175
25°	59478	50706	47372
30°	56643	47004	44619
35°	51151	42903	41446
40°	44940	38507	38402
45°	38790	33845	35306
50°	33768	29686	31667
55°	29945	25784	27585
60°	26717	21789	22899
65°	24078	17687	18059
70°	21386	13253	10693
75°	18431	7685	4611
80°	14189	2752	1385
85°	9128	920	920



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	178.6	5.0
10°-20°	497.3	13.9
20°-30°	703.3	19.7
30°-40°	741.1	20.8
40°-50°	629.9	17.7
50°-60°	453.6	12.7
60°-70°	261.6	7.3
70°-80°	89.5	2.5
80°-90°	12.3	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°	1379.2	38.7
0°-40°	2120.4	59.4
0°-60°	3203.8	89.8
0°-90°	3567.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3567.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1903	1903	1903	1903	1903	
5°	1931	1918	1887	1854	1844	185
15°	1921	1862	1753	1676	1648	541
25°	1748	1658	1490	1413	1392	802
35°	1359	1279	1140	1098	1101	846
45°	890	848	776	781	810	691
55°	557	513	480	498	513	501
65°	330	284	242	237	248	328
75°	155	116	64	41	39	163
85°	26	16	3	3	3	35
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°	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9
2.5°	1920.9	1923.5	1920.9	1920.9	1918.4	1915.7	1913.2	1910.6	1905.4	1900.3	1900.3
5°	1931.2	1936.3	1931.2	1931.2	1923.5	1918.4	1913.2	1905.4	1895.1	1887.3	1887.3
7.5°	1939.0	1939.0	1939.0	1931.2	1926.0	1918.4	1905.4	1892.5	1879.7	1866.7	1861.6
10°	1939.0	1939.0	1936.3	1926.0	1920.9	1905.4	1892.5	1874.5	1856.4	1838.3	1833.2
12.5°	1931.2	1933.8	1928.7	1918.4	1905.4	1887.3	1869.4	1846.1	1825.5	1804.9	1794.6
15°	1920.9	1918.4	1913.2	1900.3	1884.8	1861.6	1843.6	1817.7	1789.5	1763.6	1753.3
17.5°	1895.1	1895.1	1887.3	1874.5	1853.9	1828.0	1799.8	1771.4	1740.5	1712.1	1699.1
20°	1861.6	1861.6	1851.3	1835.8	1815.2	1781.7	1750.8	1717.2	1681.2	1652.8	1639.8
22.5°	1812.6	1815.2	1802.3	1784.3	1761.1	1722.4	1691.5	1650.1	1614.1	1580.5	1570.2
25°	1748.1	1753.3	1740.5	1722.4	1691.5	1657.9	1619.2	1580.5	1539.3	1505.8	1490.3
27.5°	1673.4	1676.0	1663.1	1645.0	1614.1	1578.0	1539.3	1498.1	1459.4	1423.2	1407.8
30°	1590.8	1580.5	1575.4	1552.1	1518.7	1487.7	1443.9	1410.4	1369.1	1338.2	1320.1
32.5°	1474.9	1480.0	1464.6	1446.5	1420.7	1384.6	1348.5	1309.8	1271.2	1248.0	1235.0
35°	1358.8	1363.9	1356.3	1338.2	1309.8	1278.9	1242.8	1214.4	1180.9	1152.6	1139.7
37.5°	1237.7	1237.7	1232.5	1222.2	1201.5	1173.2	1137.0	1108.7	1080.4	1057.1	1049.4
40°	1116.4	1111.3	1108.7	1101.0	1082.9	1057.1	1033.9	1010.8	982.4	966.9	956.6
42.5°	997.8	997.8	992.7	985.0	966.9	954.0	930.8	905.0	884.4	868.9	868.9
45°	889.5	892.2	884.4	879.2	868.9	848.3	827.7	809.6	791.5	781.2	776.1
47.5°	794.2	794.2	786.4	781.2	770.9	752.9	734.9	719.4	706.5	698.8	696.2
50°	703.9	703.9	703.9	691.0	678.1	665.2	652.3	634.3	626.6	621.4	618.8
52.5°	626.6	623.9	623.9	613.6	600.8	585.3	572.4	557.0	549.2	544.0	546.6
55°	557.0	557.0	554.3	541.5	528.6	513.1	500.2	487.3	482.2	477.0	479.6
56°	528.6	528.6	526.0	515.6	500.2	487.3	471.9	459.0	451.2	453.8	453.8
57°	508.0	502.8	502.8	489.9	477.0	459.0	446.0	433.2	428.0	425.4	425.4
58°	482.2	479.6	477.0	464.1	451.2	435.7	422.9	410.0	402.2	402.2	399.7
59°	456.3	456.3	451.2	440.9	428.0	412.6	399.7	386.7	379.0	376.4	376.4
60°	433.2	435.7	428.0	417.7	407.4	389.3	373.9	363.6	355.8	353.3	353.3
61°	412.6	412.6	407.4	394.5	381.6	368.7	353.3	340.4	335.2	330.0	330.0
62°	394.5	389.3	386.7	373.9	361.0	345.5	332.6	319.7	312.0	306.8	309.4
63°	371.3	368.7	363.6	353.3	340.4	324.9	309.4	299.1	291.4	283.6	286.2
64°	353.3	350.7	342.9	332.6	319.7	304.3	288.8	278.4	273.3	265.6	263.0
65°	330.0	327.4	324.9	312.0	299.1	283.6	270.7	260.4	252.7	247.5	242.4
66°	309.4	312.0	306.8	296.5	281.1	268.1	250.1	239.8	234.7	226.9	221.7
67°	291.4	291.4	286.2	275.9	260.4	247.5	234.7	221.7	214.0	206.3	203.7
67.5°	281.1	281.1	275.9	263.0	252.7	237.2	224.3	214.0	203.7	198.5	193.4
68°	270.7	270.7	268.1	257.8	245.0	229.4	216.6	203.7	193.4	185.7	183.1
69°	252.7	255.3	250.1	239.8	226.9	211.4	198.5	188.2	177.9	170.1	165.0
70°	237.2	234.7	229.4	219.1	206.3	196.0	183.1	170.1	159.8	149.5	147.0
71°	216.6	216.6	211.4	203.7	190.8	177.9	165.0	154.7	144.4	131.5	128.9
72°	201.1	201.1	196.0	185.7	175.4	162.4	149.5	136.7	128.9	116.1	110.8
72.5°	190.8	193.4	188.2	177.9	167.6	152.1	141.8	131.5	118.6	108.3	103.1
73°	185.7	183.1	180.5	170.1	157.3	147.0	134.1	123.8	110.8	100.5	95.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	<b>116.1</b>	116.1	113.5	103.1	92.8	82.5	72.2	61.9	51.5	41.2	36.1
80°	<b>79.9</b>	82.5	77.4	72.2	64.5	54.1	43.8	36.1	25.8	20.6	15.5
82.5°	<b>51.5</b>	51.5	49.0	43.8	38.7	30.9	25.8	18.1	12.9	10.3	7.8
85°	<b>25.8</b>	28.4	25.8	23.2	18.1	15.5	12.9	7.8	5.2	2.6	2.6
87.5°	<b>10.3</b>	10.3	10.3	7.8	7.8	5.2	2.6	2.6	2.6	0.0	0.0
90°	<b>0.0</b>	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°	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9	1902.9
2.5°	1895.1	1895.1	1890.0	1887.3	1884.8	1882.2	1879.7	1877.0	1877.0	1879.7
5°	1879.7	1874.5	1864.2	1861.6	1853.9	1851.3	1846.1	1843.6	1846.1	1843.6
7.5°	1856.4	1846.1	1833.2	1828.0	1817.7	1812.6	1804.9	1804.9	1799.8	1802.3
10°	1825.5	1810.1	1794.6	1784.3	1776.5	1768.7	1763.6	1758.4	1755.9	1755.9
12.5°	1786.8	1768.7	1753.3	1737.8	1724.9	1719.7	1709.4	1709.4	1704.3	1701.8
15°	1743.0	1719.7	1701.8	1686.3	1676.0	1665.6	1657.9	1652.8	1647.6	1647.6
17.5°	1686.3	1665.6	1647.6	1629.5	1614.1	1606.3	1598.6	1590.8	1590.8	1585.7
20°	1624.4	1601.1	1585.7	1567.7	1554.8	1541.8	1531.5	1531.5	1526.4	1529.0
22.5°	1554.8	1526.4	1510.9	1498.1	1485.2	1474.9	1464.6	1464.6	1461.9	1459.4
25°	1477.4	1454.3	1436.2	1420.7	1412.9	1402.6	1400.1	1395.0	1392.3	1392.3
27.5°	1395.0	1376.9	1353.6	1346.0	1335.7	1330.5	1330.5	1327.9	1322.7	1325.3
30°	1307.3	1286.7	1273.7	1268.6	1258.3	1258.3	1255.6	1250.5	1250.5	1253.1
32.5°	1222.2	1201.5	1191.2	1188.7	1178.4	1178.4	1175.7	1178.4	1178.4	1180.9
35°	1129.4	1111.3	1108.7	1101.0	1098.4	1098.4	1098.4	1103.6	1108.7	1101.0
37.5°	1041.7	1028.7	1021.1	1018.4	1021.1	1021.1	1023.6	1031.4	1028.7	1026.2
40°	951.5	941.1	936.0	936.0	941.1	946.3	946.3	954.0	956.6	954.0
42.5°	861.1	853.5	853.5	856.0	861.1	863.8	871.5	879.2	881.8	884.4
45°	776.1	776.1	776.1	778.7	781.2	786.4	796.7	804.5	807.1	809.6
47.5°	693.6	691.0	698.8	701.3	709.1	711.6	719.4	729.7	732.2	734.9
50°	616.3	621.4	623.9	631.7	636.9	636.9	647.2	652.3	660.1	660.1
52.5°	544.0	551.8	554.3	562.1	564.6	567.3	572.4	580.2	585.3	585.3
55°	479.6	482.2	487.3	489.9	497.6	500.2	505.3	508.0	515.6	513.1
56°	451.2	456.3	459.0	464.1	469.3	471.9	477.0	479.6	484.7	487.3
57°	425.4	428.0	435.7	438.3	443.5	443.5	446.0	453.8	453.8	456.3
58°	399.7	404.8	407.4	410.0	415.1	417.7	422.9	425.4	428.0	425.4
59°	376.4	379.0	381.6	381.6	386.7	386.7	394.5	399.7	402.2	402.2
60°	353.3	353.3	355.8	358.4	363.6	366.1	366.1	371.3	371.3	371.3
61°	330.0	330.0	332.6	335.2	337.7	337.7	342.9	342.9	345.5	348.1
62°	309.4	306.8	306.8	309.4	309.4	314.6	317.1	319.7	322.3	319.7
63°	286.2	283.6	283.6	283.6	283.6	288.8	288.8	291.4	296.5	294.0
64°	260.4	260.4	260.4	260.4	263.0	263.0	268.1	270.7	273.3	275.9
65°	242.4	237.2	234.7	234.7	237.2	239.8	242.4	245.0	247.5	247.5
66°	221.7	216.6	214.0	214.0	214.0	214.0	219.1	219.1	224.3	224.3
67°	198.5	193.4	190.8	188.2	188.2	188.2	196.0	193.4	193.4	193.4
67.5°	190.8	183.1	180.5	177.9	175.4	180.5	177.9	180.5	180.5	177.9
68°	180.5	175.4	170.1	165.0	165.0	165.0	167.6	170.1	167.6	165.0
69°	159.8	157.3	149.5	144.4	141.8	144.4	141.8	144.4	141.8	144.4
70°	141.8	134.1	126.4	123.8	121.2	121.2	121.2	118.6	121.2	118.6
71°	123.8	116.1	108.3	103.1	100.5	100.5	98.0	100.5	98.0	100.5
72°	105.7	98.0	87.7	82.5	82.5	82.5	82.5	79.9	82.5	79.9
72.5°	98.0	87.7	79.9	74.8	72.2	72.2	72.2	72.2	69.6	72.2
73°	90.2	79.9	69.6	67.1	67.1	67.1	64.5	61.9	64.5	64.5





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	30.9	23.2	20.6	20.6	20.6	20.6	20.6	20.6	18.1	18.1
80°	12.9	10.3	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
82.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
85°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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°	167.6	167.6	162.4	154.7	141.8	128.9	118.6	108.3	95.4	82.5	77.4
75°	154.7	152.1	147.0	139.2	128.9	116.1	105.7	92.8	82.5	69.6	64.5







74°	74.8	61.9	56.7	51.5	51.5	51.5	49.0	49.0	49.0	51.5
75°	59.3	49.0	43.8	38.7	41.2	38.7	41.2	38.7	38.7	38.7



(END OF REPORT)