

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: P584855

Luminaire Tested: **HC850D010-HM82555927-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584855
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: HC850D010-HM82555927-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3870.8 lumens
Efficiency: N/A
Efficacy: 80.6 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

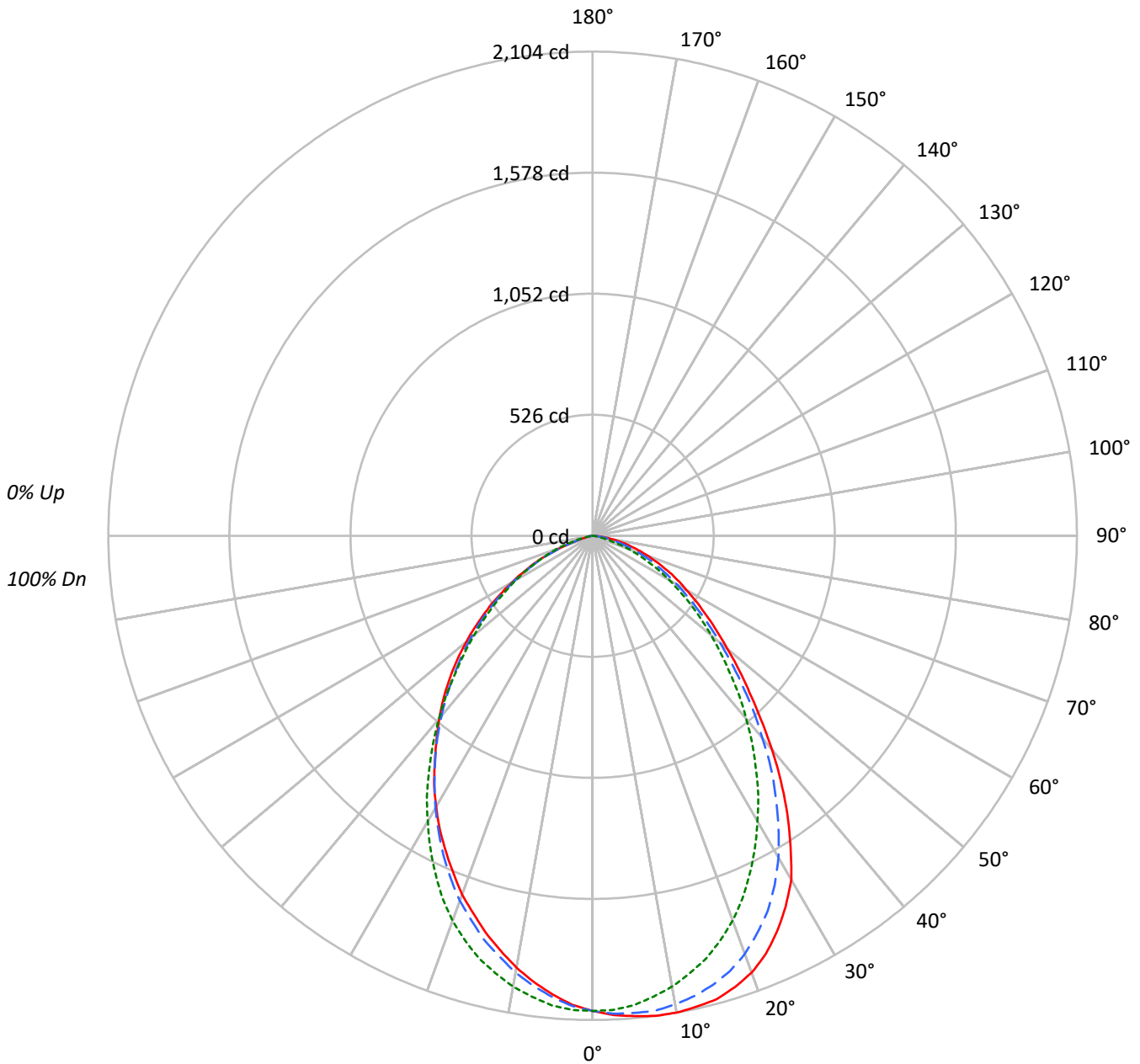
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	63671	63671	63671
5°	64864	63394	61924
10°	65880	62289	59662
15°	66543	60736	57077
20°	66287	58395	54447
25°	64540	55024	51404
30°	61468	51007	48418
35°	55506	46555	44974
40°	48764	41784	41667
45°	42092	36723	38311
50°	36642	32214	34358
55°	32493	27977	29934
60°	28992	23639	24842
65°	26136	19190	19598
70°	23207	14380	11604
75°	20004	8328	5004
80°	15396	2983	1492
85°	9871	991	991



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.8	5.0
10°-20°	539.6	13.9
20°-30°	763.2	19.7
30°-40°	804.2	20.8
40°-50°	683.5	17.7
50°-60°	492.2	12.7
60°-70°	283.9	7.3
70°-80°	97.1	2.5
80°-90°	13.4	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°	1496.6	38.7
0°-40°	2300.8	59.4
0°-60°	3476.4	89.8
0°-90°	3870.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3870.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2065	2065	2065	2065	2065	
5°	2096	2082	2048	2012	2000	200
15°	2084	2020	1902	1819	1788	587
25°	1897	1799	1617	1533	1511	870
35°	1474	1388	1237	1192	1195	918
45°	965	920	842	848	878	750
55°	604	557	520	540	557	544
65°	358	308	263	257	269	356
75°	168	126	70	45	42	177
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°	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8
2.5°	2084.4	2087.2	2084.4	2084.4	2081.6	2078.8	2076.0	2073.2	2067.6	2062.0	2062.0
5°	2095.5	2101.2	2095.5	2095.5	2087.2	2081.6	2076.0	2067.6	2056.4	2048.0	2048.0
7.5°	2104.0	2104.0	2104.0	2095.5	2089.9	2081.6	2067.6	2053.6	2039.7	2025.6	2020.0
10°	2104.0	2104.0	2101.2	2089.9	2084.4	2067.6	2053.6	2034.1	2014.4	1994.9	1989.3
12.5°	2095.5	2098.4	2092.7	2081.6	2067.6	2048.0	2028.4	2003.3	1980.9	1958.5	1947.3
15°	2084.4	2081.6	2076.0	2062.0	2045.3	2020.0	2000.5	1972.5	1941.7	1913.8	1902.5
17.5°	2056.4	2056.4	2048.0	2034.1	2011.6	1983.7	1952.9	1922.1	1888.5	1857.8	1843.7
20°	2020.0	2020.0	2008.8	1992.1	1969.6	1933.3	1899.7	1863.4	1824.2	1793.4	1779.5
22.5°	1966.8	1969.6	1955.7	1936.1	1911.0	1869.0	1835.4	1790.7	1751.4	1715.0	1703.9
25°	1896.9	1902.5	1888.5	1869.0	1835.4	1799.0	1757.0	1715.0	1670.3	1633.9	1617.2
27.5°	1815.8	1818.6	1804.6	1785.1	1751.4	1712.2	1670.3	1625.5	1583.5	1544.4	1527.6
30°	1726.3	1715.0	1709.4	1684.3	1647.9	1614.4	1566.8	1530.5	1485.7	1452.1	1432.5
32.5°	1600.4	1606.0	1589.1	1569.6	1541.6	1502.4	1463.2	1421.3	1379.3	1354.2	1340.1
35°	1474.5	1480.1	1471.7	1452.1	1421.3	1387.7	1348.6	1317.8	1281.5	1250.6	1236.7
37.5°	1342.9	1342.9	1337.3	1326.2	1303.8	1273.0	1233.9	1203.0	1172.3	1147.1	1138.7
40°	1211.4	1205.8	1203.0	1194.7	1175.1	1147.1	1121.9	1096.8	1066.0	1049.2	1038.0
42.5°	1082.7	1082.7	1077.1	1068.8	1049.2	1035.1	1010.0	982.1	959.6	942.9	942.9
45°	965.2	968.0	959.6	954.0	942.9	920.5	898.1	878.5	859.0	847.8	842.1
47.5°	861.8	861.8	853.4	847.8	836.5	817.0	797.4	780.7	766.6	758.2	755.4
50°	763.8	763.8	763.8	749.8	735.9	721.9	707.8	688.3	679.9	674.3	671.5
52.5°	679.9	677.1	677.1	665.9	652.0	635.1	621.1	604.4	596.0	590.3	593.2
55°	604.4	604.4	601.6	587.5	573.5	556.8	542.8	528.7	523.2	517.6	520.4
56°	573.5	573.5	570.7	559.6	542.8	528.7	512.0	498.0	489.6	492.4	492.4
57°	551.2	545.6	545.6	531.5	517.6	498.0	484.1	470.1	464.4	461.6	461.6
58°	523.2	520.4	517.6	503.6	489.6	472.9	458.8	444.8	436.5	436.5	433.7
59°	495.2	495.2	489.6	478.5	464.4	447.6	433.7	419.7	411.3	408.4	408.4
60°	470.1	472.9	464.4	453.2	442.1	422.5	405.6	394.5	386.1	383.3	383.3
61°	447.6	447.6	442.1	428.1	414.1	400.1	383.3	369.3	363.7	358.2	358.2
62°	428.1	422.5	419.7	405.6	391.7	374.9	360.9	347.0	338.5	332.9	335.7
63°	402.8	400.1	394.5	383.3	369.3	352.6	335.7	324.5	316.2	307.8	310.6
64°	383.3	380.5	372.1	360.9	347.0	330.1	313.4	302.2	296.6	288.2	285.4
65°	358.2	355.4	352.6	338.5	324.5	307.8	293.8	282.5	274.2	268.6	263.0
66°	335.7	338.5	332.9	321.7	305.0	291.0	271.4	260.2	254.6	246.2	240.6
67°	316.2	316.2	310.6	299.4	282.5	268.6	254.6	240.6	232.2	223.9	221.1
67.5°	305.0	305.0	299.4	285.4	274.2	257.4	243.4	232.2	221.1	215.4	209.8
68°	293.8	293.8	291.0	279.7	265.8	249.0	235.0	221.1	209.8	201.4	198.6
69°	274.2	276.9	271.4	260.2	246.2	229.5	215.4	204.2	193.0	184.7	179.1
70°	257.4	254.6	249.0	237.8	223.9	212.6	198.6	184.7	173.5	162.3	159.5
71°	235.0	235.0	229.5	221.1	207.0	193.0	179.1	167.9	156.6	142.7	139.9
72°	218.3	218.3	212.6	201.4	190.2	176.3	162.3	148.2	139.9	125.9	120.3
72.5°	207.0	209.8	204.2	193.0	181.9	165.1	153.8	142.7	128.7	117.5	111.9
73°	201.4	198.6	195.8	184.7	170.7	159.5	145.5	134.3	120.3	109.1	103.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	125.9	125.9	123.1	111.9	100.8	89.5	78.3	67.1	56.0	44.8	39.2
80°	86.7	89.5	83.9	78.3	69.9	58.8	47.6	39.2	27.9	22.3	16.8
82.5°	56.0	56.0	53.2	47.6	42.0	33.6	27.9	19.6	14.0	11.2	8.4
85°	27.9	30.7	27.9	25.1	19.6	16.8	14.0	8.4	5.6	2.8	2.8
87.5°	11.2	11.2	11.2	8.4	8.4	5.6	2.8	2.8	2.8	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°	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8	2064.8
2.5°	2056.4	2056.4	2050.8	2048.0	2045.3	2042.5	2039.7	2036.9	2036.9	2039.7
5°	2039.7	2034.1	2022.8	2020.0	2011.6	2008.8	2003.3	2000.5	2003.3	2000.5
7.5°	2014.4	2003.3	1989.3	1983.7	1972.5	1966.8	1958.5	1958.5	1952.9	1955.7
10°	1980.9	1964.0	1947.3	1936.1	1927.7	1919.4	1913.8	1908.2	1905.4	1905.4
12.5°	1938.9	1919.4	1902.5	1885.7	1871.8	1866.2	1855.0	1855.0	1849.4	1846.6
15°	1891.3	1866.2	1846.6	1829.8	1818.6	1807.4	1799.0	1793.4	1787.9	1787.9
17.5°	1829.8	1807.4	1787.9	1768.2	1751.4	1743.1	1734.7	1726.3	1726.3	1720.7
20°	1762.6	1737.5	1720.7	1701.1	1687.1	1673.1	1662.0	1662.0	1656.4	1659.2
22.5°	1687.1	1656.4	1639.5	1625.5	1611.6	1600.4	1589.1	1589.1	1586.3	1583.5
25°	1603.2	1578.0	1558.4	1541.6	1533.3	1522.0	1519.2	1513.6	1510.8	1510.8
27.5°	1513.6	1494.1	1468.8	1460.4	1449.3	1443.7	1443.7	1440.9	1435.3	1438.1
30°	1418.5	1396.1	1382.1	1376.5	1365.4	1365.4	1362.6	1357.0	1357.0	1359.8
32.5°	1326.2	1303.8	1292.6	1289.8	1278.7	1278.7	1275.8	1278.7	1278.7	1281.5
35°	1225.5	1205.8	1203.0	1194.7	1191.9	1191.9	1191.9	1197.5	1203.0	1194.7
37.5°	1130.3	1116.4	1108.0	1105.2	1108.0	1108.0	1110.8	1119.1	1116.4	1113.6
40°	1032.5	1021.2	1015.6	1015.6	1021.2	1026.8	1026.8	1035.1	1038.0	1035.1
42.5°	934.5	926.1	926.1	928.9	934.5	937.3	945.7	954.0	956.8	959.6
45°	842.1	842.1	842.1	845.0	847.8	853.4	864.6	872.9	875.7	878.5
47.5°	752.6	749.8	758.2	761.0	769.4	772.2	780.7	791.8	794.6	797.4
50°	668.7	674.3	677.1	685.5	691.1	691.1	702.2	707.8	716.2	716.2
52.5°	590.3	598.8	601.6	610.0	612.7	615.5	621.1	629.5	635.1	635.1
55°	520.4	523.2	528.7	531.5	540.0	542.8	548.4	551.2	559.6	556.8
56°	489.6	495.2	498.0	503.6	509.2	512.0	517.6	520.4	526.1	528.7
57°	461.6	464.4	472.9	475.7	481.3	481.3	484.1	492.4	492.4	495.2
58°	433.7	439.3	442.1	444.8	450.4	453.2	458.8	461.6	464.4	461.6
59°	408.4	411.3	414.1	414.1	419.7	419.7	428.1	433.7	436.5	436.5
60°	383.3	383.3	386.1	388.9	394.5	397.3	397.3	402.8	402.8	402.8
61°	358.2	358.2	360.9	363.7	366.5	366.5	372.1	372.1	374.9	377.7
62°	335.7	332.9	332.9	335.7	335.7	341.3	344.2	347.0	349.8	347.0
63°	310.6	307.8	307.8	307.8	307.8	313.4	313.4	316.2	321.7	318.9
64°	282.5	282.5	282.5	282.5	285.4	285.4	291.0	293.8	296.6	299.4
65°	263.0	257.4	254.6	254.6	257.4	260.2	263.0	265.8	268.6	268.6
66°	240.6	235.0	232.2	232.2	232.2	232.2	237.8	237.8	243.4	243.4
67°	215.4	209.8	207.0	204.2	204.2	204.2	212.6	209.8	209.8	209.8
67.5°	207.0	198.6	195.8	193.0	190.2	195.8	193.0	195.8	195.8	193.0
68°	195.8	190.2	184.7	179.1	179.1	179.1	181.9	184.7	181.9	179.1
69°	173.5	170.7	162.3	156.6	153.8	156.6	153.8	156.6	153.8	156.6
70°	153.8	145.5	137.1	134.3	131.5	131.5	131.5	128.7	131.5	128.7
71°	134.3	125.9	117.5	111.9	109.1	109.1	106.3	109.1	106.3	109.1
72°	114.7	106.3	95.2	89.5	89.5	89.5	89.5	86.7	89.5	86.7
72.5°	106.3	95.2	86.7	81.1	78.3	78.3	78.3	78.3	75.5	78.3
73°	98.0	86.7	75.5	72.7	72.7	72.7	69.9	67.1	69.9	69.9



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	33.6	25.1	22.3	22.3	22.3	22.3	22.3	22.3	19.6	19.6
80°	14.0	11.2	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
82.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
85°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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°	181.9	181.9	176.3	167.9	153.8	139.9	128.7	117.5	103.6	89.5	83.9
75°	167.9	165.1	159.5	151.0	139.9	125.9	114.7	100.8	89.5	75.5	69.9





74°	81.1	67.1	61.6	56.0	56.0	56.0	53.2	53.2	53.2	56.0
75°	64.3	53.2	47.6	42.0	44.8	42.0	44.8	42.0	42.0	42.0



(END OF REPORT)