

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: P584515

Luminaire Tested: **HC840D010-HM82555827-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584515
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-HM82555827-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4281.6 lumens
Efficiency: N/A
Efficacy: 104.4 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

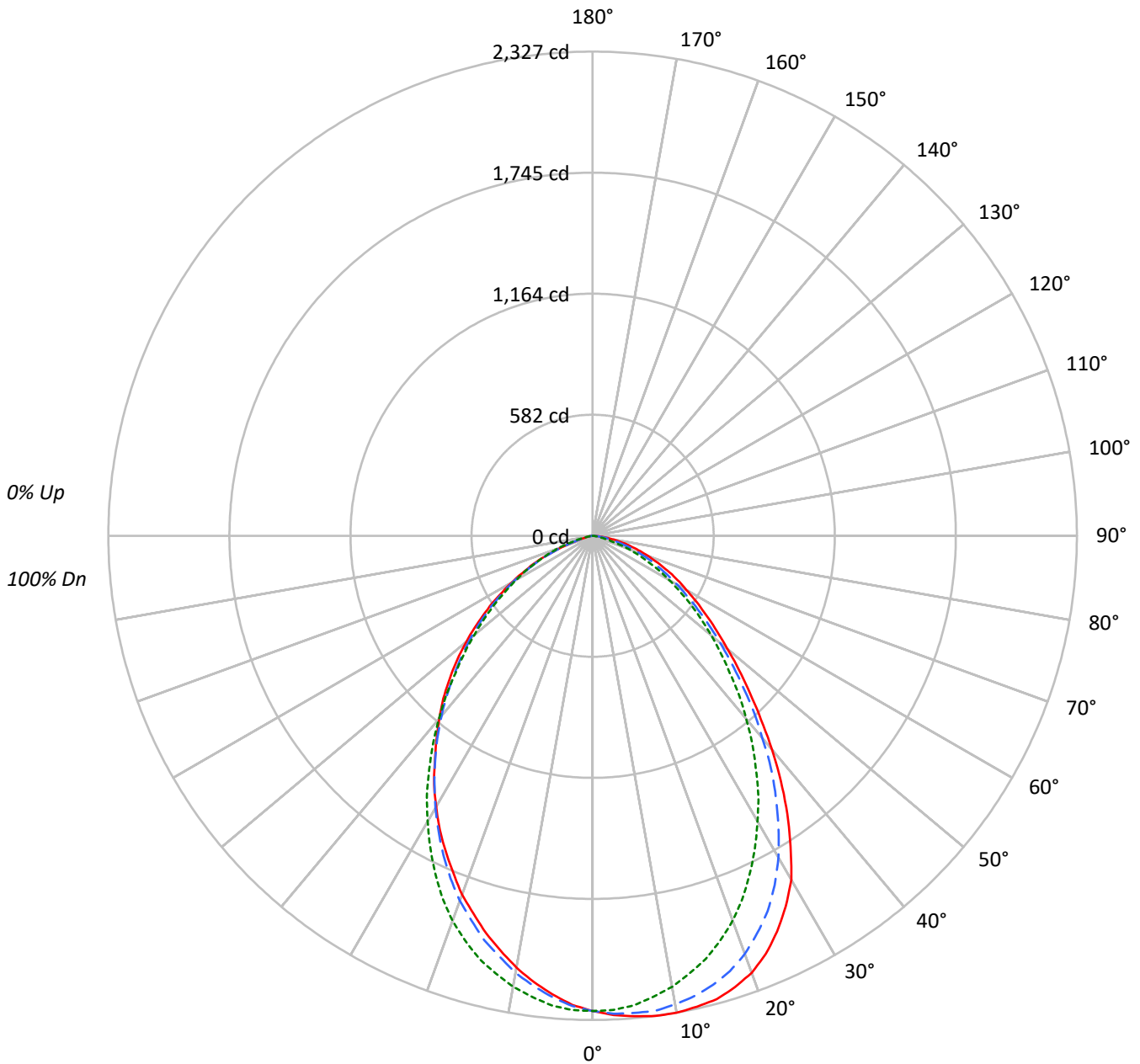
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: HC840D010-HM82555827-81RWWH

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°	70430	70430	70430
5°	71752	70123	68495
10°	72872	68899	65990
15°	73604	67181	63130
20°	73326	64590	60223
25°	71389	60862	56858
30°	67991	56419	53552
35°	61394	51493	49747
40°	53944	46216	46091
45°	46561	40622	42379
50°	40532	35634	38009
55°	35934	30945	33106
60°	32064	26149	27487
65°	28909	21233	21678
70°	25677	15904	12830
75°	22113	9222	5528
80°	17030	3303	1651
85°	10933	1097	1097



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CATALOG NUMBER: HC840D010-HM82555827-81RWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.4	5.0
10°-20°	596.9	13.9
20°-30°	844.2	19.7
30°-40°	889.6	20.8
40°-50°	756.0	17.7
50°-60°	544.4	12.7
60°-70°	314.0	7.3
70°-80°	107.4	2.5
80°-90°	14.8	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°	1655.4	38.7
0°-40°	2545.0	59.4
0°-60°	3845.4	89.8
0°-90°	4281.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4281.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2284	2284	2284	2284	2284	
5°	2318	2302	2265	2225	2213	222
15°	2306	2234	2104	2012	1978	649
25°	2098	1990	1789	1696	1671	962
35°	1631	1535	1368	1318	1322	1016
45°	1068	1018	932	938	972	829
55°	668	616	576	597	616	602
65°	396	340	291	285	297	394
75°	186	139	77	50	46	196
85°	31	19	3	3	3	42
90°	0	0	0	0	0	



TEST NUMBER: P584515

CATALOG NUMBER: HC840D010-HM82555827-81RWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0
2.5°	2305.6	2308.7	2305.6	2305.6	2302.5	2299.4	2296.3	2293.2	2287.1	2280.9	2280.9
5°	2318.0	2324.2	2318.0	2318.0	2308.7	2302.5	2296.3	2287.1	2274.7	2265.4	2265.4
7.5°	2327.3	2327.3	2327.3	2318.0	2311.8	2302.5	2287.1	2271.6	2256.1	2240.7	2234.5
10°	2327.3	2327.3	2324.2	2311.8	2305.6	2287.1	2271.6	2249.9	2228.3	2206.6	2200.4
12.5°	2318.0	2321.1	2314.9	2302.5	2287.1	2265.4	2243.7	2215.9	2191.0	2166.3	2153.9
15°	2305.6	2302.5	2296.3	2280.9	2262.3	2234.5	2212.8	2181.7	2147.7	2116.8	2104.4
17.5°	2274.7	2274.7	2265.4	2249.9	2225.2	2194.1	2160.1	2126.1	2088.9	2054.9	2039.4
20°	2234.5	2234.5	2222.1	2203.5	2178.7	2138.4	2101.3	2061.1	2017.8	1983.7	1968.3
22.5°	2175.6	2178.7	2163.2	2141.5	2113.7	2067.3	2030.1	1980.6	1937.3	1897.1	1884.7
25°	2098.2	2104.4	2088.9	2067.3	2030.1	1989.9	1943.5	1897.1	1847.6	1807.4	1788.8
27.5°	2008.5	2011.6	1996.1	1974.4	1937.3	1894.0	1847.6	1798.1	1751.7	1708.2	1689.7
30°	1909.5	1897.1	1890.9	1863.1	1822.8	1785.7	1733.1	1692.8	1643.3	1606.1	1584.5
32.5°	1770.2	1776.4	1757.9	1736.2	1705.2	1661.8	1618.5	1572.1	1525.7	1497.9	1482.4
35°	1630.9	1637.1	1627.8	1606.1	1572.1	1535.0	1491.7	1457.6	1417.4	1383.4	1367.9
37.5°	1485.5	1485.5	1479.3	1466.9	1442.2	1408.1	1364.8	1330.8	1296.7	1268.9	1259.6
40°	1340.1	1333.9	1330.8	1321.5	1299.8	1268.9	1241.1	1213.1	1179.1	1160.5	1148.1
42.5°	1197.6	1197.6	1191.4	1182.1	1160.5	1145.0	1117.2	1086.2	1061.5	1042.9	1042.9
45°	1067.7	1070.8	1061.5	1055.3	1042.9	1018.2	993.4	971.8	950.1	937.7	931.5
47.5°	953.2	953.2	943.9	937.7	925.3	903.7	882.0	863.5	848.0	838.7	835.6
50°	844.9	844.9	844.9	829.4	814.0	798.5	783.0	761.4	752.1	745.9	742.8
52.5°	752.1	749.0	749.0	736.6	721.0	702.5	687.0	668.4	659.1	653.0	656.0
55°	668.4	668.4	665.3	649.9	634.4	615.8	600.4	584.9	578.7	572.5	575.6
56°	634.4	634.4	631.3	618.9	600.4	584.9	566.3	550.9	541.6	544.7	544.7
57°	609.6	603.4	603.4	588.0	572.5	550.9	535.4	519.9	513.7	510.6	510.6
58°	578.7	575.6	572.5	557.0	541.6	523.0	507.5	492.1	482.8	482.8	479.7
59°	547.8	547.8	541.6	529.2	513.7	495.2	479.7	464.2	454.9	451.8	451.8
60°	519.9	523.0	513.7	501.3	489.0	467.3	448.7	436.4	427.1	424.0	424.0
61°	495.2	495.2	489.0	473.5	458.0	442.6	424.0	408.5	402.3	396.2	396.2
62°	473.5	467.3	464.2	448.7	433.3	414.7	399.2	383.8	374.5	368.3	371.4
63°	445.7	442.6	436.4	424.0	408.5	390.0	371.4	359.0	349.7	340.5	343.6
64°	424.0	420.9	411.6	399.2	383.8	365.2	346.6	334.3	328.1	318.8	315.7
65°	396.2	393.1	390.0	374.5	359.0	340.5	325.0	312.6	303.3	297.1	291.0
66°	371.4	374.5	368.3	355.9	337.4	321.9	300.2	287.9	281.7	272.4	266.2
67°	349.7	349.7	343.6	331.2	312.6	297.1	281.7	266.2	256.9	247.6	244.5
67.5°	337.4	337.4	331.2	315.7	303.3	284.8	269.3	256.9	244.5	238.2	232.0
68°	325.0	325.0	321.9	309.5	294.0	275.5	260.0	244.5	232.0	222.8	219.7
69°	303.3	306.4	300.2	287.9	272.4	253.8	238.2	225.9	213.5	204.2	198.0
70°	284.8	281.7	275.5	263.1	247.6	235.1	219.7	204.2	191.8	179.5	176.4
71°	260.0	260.0	253.8	244.5	229.0	213.5	198.0	185.6	173.3	157.8	154.7
72°	241.3	241.3	235.1	222.8	210.4	194.9	179.5	164.0	154.7	139.2	133.0
72.5°	229.0	232.0	225.9	213.5	201.1	182.5	170.2	157.8	142.3	129.9	123.8
73°	222.8	219.7	216.6	204.2	188.7	176.4	160.9	148.5	133.0	120.7	114.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	139.2	139.2	136.1	123.8	111.4	99.0	86.6	74.3	61.9	49.5	43.3
80°	95.9	99.0	92.8	86.6	77.4	65.0	52.6	43.3	30.9	24.8	18.6
82.5°	61.9	61.9	58.8	52.6	46.4	37.1	30.9	21.7	15.5	12.4	9.3
85°	30.9	34.0	30.9	27.8	21.7	18.6	15.5	9.3	6.2	3.1	3.1
87.5°	12.4	12.4	12.4	9.3	9.3	6.2	3.1	3.1	3.1	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°	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0	2284.0
2.5°	2274.7	2274.7	2268.5	2265.4	2262.3	2259.2	2256.1	2253.0	2253.0	2256.1
5°	2256.1	2249.9	2237.6	2234.5	2225.2	2222.1	2215.9	2212.8	2215.9	2212.8
7.5°	2228.3	2215.9	2200.4	2194.1	2181.7	2175.6	2166.3	2166.3	2160.1	2163.2
10°	2191.0	2172.5	2153.9	2141.5	2132.2	2123.0	2116.8	2110.6	2107.5	2107.5
12.5°	2144.6	2123.0	2104.4	2085.8	2070.4	2064.2	2051.8	2051.8	2045.6	2042.5
15°	2092.0	2064.2	2042.5	2024.0	2011.6	1999.2	1989.9	1983.7	1977.5	1977.5
17.5°	2024.0	1999.2	1977.5	1955.9	1937.3	1928.0	1918.8	1909.5	1909.5	1903.3
20°	1949.7	1921.8	1903.3	1881.6	1866.2	1850.7	1838.3	1838.3	1832.1	1835.2
22.5°	1866.2	1832.1	1813.6	1798.1	1782.6	1770.2	1757.9	1757.9	1754.8	1751.7
25°	1773.3	1745.5	1723.8	1705.2	1695.9	1683.5	1680.4	1674.2	1671.1	1671.1
27.5°	1674.2	1652.6	1624.7	1615.4	1603.0	1596.9	1596.9	1593.8	1587.6	1590.7
30°	1569.0	1544.3	1528.8	1522.6	1510.2	1510.2	1507.1	1500.9	1500.9	1504.0
32.5°	1466.9	1442.2	1429.8	1426.7	1414.3	1414.3	1411.2	1414.3	1414.3	1417.4
35°	1355.5	1333.9	1330.8	1321.5	1318.4	1318.4	1318.4	1324.6	1330.8	1321.5
37.5°	1250.3	1234.9	1225.6	1222.5	1225.6	1225.6	1228.7	1238.0	1234.9	1231.8
40°	1141.9	1129.5	1123.4	1123.4	1129.5	1135.7	1135.7	1145.0	1148.1	1145.0
42.5°	1033.6	1024.4	1024.4	1027.4	1033.6	1036.7	1046.0	1055.3	1058.4	1061.5
45°	931.5	931.5	931.5	934.6	937.7	943.9	956.3	965.6	968.7	971.8
47.5°	832.5	829.4	838.7	841.8	851.1	854.2	863.5	875.8	878.9	882.0
50°	739.7	745.9	749.0	758.3	764.5	764.5	776.8	783.0	792.3	792.3
52.5°	653.0	662.2	665.3	674.6	677.7	680.8	687.0	696.3	702.5	702.5
55°	575.6	578.7	584.9	588.0	597.3	600.4	606.5	609.6	618.9	615.8
56°	541.6	547.8	550.9	557.0	563.2	566.3	572.5	575.6	581.8	584.9
57°	510.6	513.7	523.0	526.1	532.3	532.3	535.4	544.7	544.7	547.8
58°	479.7	485.9	489.0	492.1	498.3	501.3	507.5	510.6	513.7	510.6
59°	451.8	454.9	458.0	458.0	464.2	464.2	473.5	479.7	482.8	482.8
60°	424.0	424.0	427.1	430.2	436.4	439.5	439.5	445.7	445.7	445.7
61°	396.2	396.2	399.2	402.3	405.4	405.4	411.6	411.6	414.7	417.8
62°	371.4	368.3	368.3	371.4	371.4	377.6	380.7	383.8	386.9	383.8
63°	343.6	340.5	340.5	340.5	340.5	346.6	346.6	349.7	355.9	352.8
64°	312.6	312.6	312.6	312.6	315.7	315.7	321.9	325.0	328.1	331.2
65°	291.0	284.8	281.7	281.7	284.8	287.9	291.0	294.0	297.1	297.1
66°	266.2	260.0	256.9	256.9	256.9	256.9	263.1	263.1	269.3	269.3
67°	238.2	232.0	229.0	225.9	225.9	225.9	235.1	232.0	232.0	232.0
67.5°	229.0	219.7	216.6	213.5	210.4	216.6	213.5	216.6	216.6	213.5
68°	216.6	210.4	204.2	198.0	198.0	198.0	201.1	204.2	201.1	198.0
69°	191.8	188.7	179.5	173.3	170.2	173.3	170.2	173.3	170.2	173.3
70°	170.2	160.9	151.6	148.5	145.4	145.4	145.4	142.3	145.4	142.3
71°	148.5	139.2	129.9	123.8	120.7	120.7	117.6	120.7	117.6	120.7
72°	126.9	117.6	105.2	99.0	99.0	99.0	99.0	95.9	99.0	95.9
72.5°	117.6	105.2	95.9	89.7	86.6	86.6	86.6	86.6	83.5	86.6
73°	108.3	95.9	83.5	80.4	80.4	80.4	77.4	74.3	77.4	77.4



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	37.1	27.8	24.8	24.8	24.8	24.8	24.8	24.8	21.7	21.7
80°	15.5	12.4	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
82.5°	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
85°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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°	201.1	201.1	194.9	185.6	170.2	154.7	142.3	129.9	114.5	99.0	92.8
75°	185.6	182.5	176.4	167.1	154.7	139.2	126.9	111.4	99.0	83.5	77.4





74°	89.7	74.3	68.1	61.9	61.9	61.9	58.8	58.8	58.8	61.9
75°	71.2	58.8	52.6	46.4	49.5	46.4	49.5	46.4	46.4	46.4



(END OF REPORT)