

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: P584804

Luminaire Tested: **HC850D010-HM82555830-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584804
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-HM82555830-81RWWH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4688.1 lumens
Efficiency: N/A
Efficacy: 97.7 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

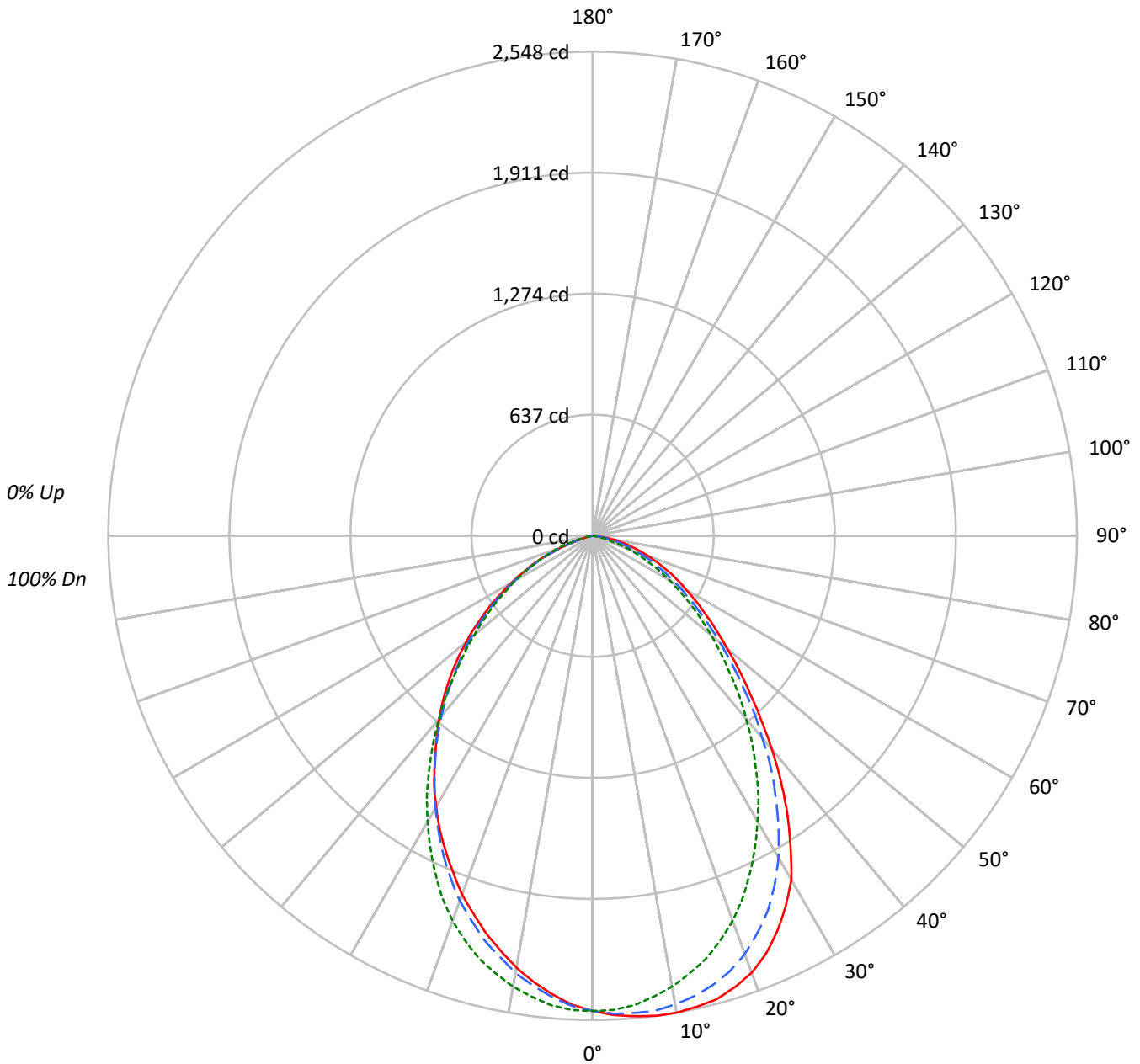
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: HC850D010-HM82555830-81RWWH

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°	77112	77112	77112
5°	78562	76779	74996
10°	79789	75437	72256
15°	80592	73560	69122
20°	80283	70720	65939
25°	78167	66636	62257
30°	74447	61774	58637
35°	67225	56380	54467
40°	59061	50603	50470
45°	50979	44481	46400
50°	44375	39016	41616
55°	39348	33880	36251
60°	35110	28628	30090
65°	31645	23247	23735
70°	28112	17410	14047
75°	24222	10103	6064
80°	18664	3605	1811
85°	11994	1203	1203



TEST NUMBER: P584804

CATALOG NUMBER: HC850D010-HM82555830-81RWWH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.8	5.0
10°-20°	653.5	13.9
20°-30°	924.3	19.7
30°-40°	974.0	20.8
40°-50°	827.8	17.7
50°-60°	596.1	12.7
60°-70°	343.8	7.3
70°-80°	117.7	2.5
80°-90°	16.2	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°	1812.6	38.7
0°-40°	2786.6	59.4
0°-60°	4210.4	89.8
0°-90°	4688.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4688.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2501	2501	2501	2501	2501	
5°	2538	2521	2480	2436	2423	243
15°	2524	2446	2304	2202	2165	711
25°	2297	2179	1958	1857	1830	1054
35°	1786	1681	1498	1444	1447	1112
45°	1169	1115	1020	1027	1064	908
55°	732	674	630	654	674	659
65°	434	373	319	312	325	431
75°	203	152	85	54	51	215
85°	34	20	3	3	3	46
90°	0	0	0	0	0	



TEST NUMBER: P584804

CATALOG NUMBER: HC850D010-HM82555830-81RWWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7
2.5°	2524.5	2527.8	2524.5	2524.5	2521.1	2517.7	2514.3	2510.9	2504.1	2497.3	2497.3
5°	2538.0	2544.8	2538.0	2538.0	2527.8	2521.1	2514.3	2504.1	2490.6	2480.4	2480.4
7.5°	2548.2	2548.2	2548.2	2538.0	2531.2	2521.1	2504.1	2487.2	2470.2	2453.3	2446.5
10°	2548.2	2548.2	2544.8	2531.2	2524.5	2504.1	2487.2	2463.4	2439.7	2416.0	2409.2
12.5°	2538.0	2541.4	2534.6	2521.1	2504.1	2480.4	2456.7	2426.1	2399.0	2372.0	2358.5
15°	2524.5	2521.1	2514.3	2497.3	2477.0	2446.5	2422.8	2388.9	2351.7	2317.8	2304.2
17.5°	2490.6	2490.6	2480.4	2463.4	2436.3	2402.4	2365.2	2327.9	2287.3	2250.0	2233.0
20°	2446.5	2446.5	2432.9	2412.6	2385.6	2341.5	2300.8	2256.8	2209.3	2172.0	2155.1
22.5°	2382.2	2385.6	2368.6	2344.9	2314.4	2263.5	2222.9	2168.6	2121.3	2077.2	2063.6
25°	2297.4	2304.2	2287.3	2263.5	2222.9	2178.8	2128.0	2077.2	2023.0	1978.9	1958.5
27.5°	2199.1	2202.5	2185.6	2161.8	2121.3	2073.8	2023.0	1968.7	1917.9	1870.5	1850.2
30°	2090.8	2077.2	2070.4	2039.9	1995.8	1955.2	1897.5	1853.6	1799.3	1758.6	1734.9
32.5°	1938.2	1945.0	1924.6	1900.9	1867.1	1819.7	1772.2	1721.4	1670.5	1640.0	1623.2
35°	1785.8	1792.5	1782.4	1758.6	1721.4	1680.7	1633.2	1596.0	1552.0	1514.7	1497.7
37.5°	1626.5	1626.5	1619.8	1606.2	1579.1	1541.8	1494.3	1457.0	1419.8	1389.2	1379.2
40°	1467.2	1460.4	1457.0	1446.9	1423.1	1389.2	1358.8	1328.3	1291.0	1270.7	1257.1
42.5°	1311.4	1311.4	1304.6	1294.4	1270.7	1253.8	1223.2	1189.3	1162.2	1141.9	1141.9
45°	1169.0	1172.4	1162.2	1155.4	1141.9	1114.9	1087.8	1064.0	1040.3	1026.7	1020.0
47.5°	1043.7	1043.7	1033.5	1026.7	1013.2	989.4	965.7	945.4	928.4	918.2	914.9
50°	925.0	925.0	925.0	908.1	891.1	874.3	857.3	833.6	823.4	816.7	813.3
52.5°	823.4	820.1	820.1	806.5	789.5	769.2	752.3	731.9	721.7	715.0	718.4
55°	731.9	731.9	728.5	711.6	694.6	674.3	657.3	640.4	633.6	626.9	630.2
56°	694.6	694.6	691.2	677.7	657.3	640.4	620.2	603.2	593.0	596.4	596.4
57°	667.5	660.7	660.7	643.8	626.9	603.2	586.3	569.3	562.5	559.1	559.1
58°	633.6	630.2	626.9	610.0	593.0	572.7	555.7	538.8	528.6	528.6	525.2
59°	599.8	599.8	593.0	579.5	562.5	542.2	525.2	508.3	498.1	494.7	494.7
60°	569.3	572.7	562.5	549.0	535.4	511.7	491.3	477.8	467.6	464.2	464.2
61°	542.2	542.2	535.4	518.5	501.5	484.6	464.2	447.3	440.5	433.7	433.7
62°	518.5	511.7	508.3	491.3	474.4	454.0	437.1	420.1	410.0	403.2	406.6
63°	487.9	484.6	477.8	464.2	447.3	426.9	406.6	393.0	382.8	372.8	376.2
64°	464.2	460.8	450.6	437.1	420.1	399.8	379.5	366.0	359.2	349.1	345.7
65°	433.7	430.3	426.9	410.0	393.0	372.8	355.8	342.3	332.1	325.3	318.6
66°	406.6	410.0	403.2	389.6	369.4	352.5	328.7	315.2	308.4	298.2	291.4
67°	382.8	382.8	376.2	362.6	342.3	325.3	308.4	291.4	281.3	271.1	267.7
67.5°	369.4	369.4	362.6	345.7	332.1	311.8	294.8	281.3	267.7	260.9	254.1
68°	355.8	355.8	352.5	338.9	321.9	301.6	284.7	267.7	254.1	244.0	240.6
69°	332.1	335.5	328.7	315.2	298.2	277.9	260.9	247.4	233.8	223.6	216.8
70°	311.8	308.4	301.6	288.0	271.1	257.5	240.6	223.6	210.1	196.5	193.1
71°	284.7	284.7	277.9	267.7	250.8	233.8	216.8	203.3	189.7	172.8	169.4
72°	264.3	264.3	257.5	244.0	230.4	213.5	196.5	179.6	169.4	152.4	145.7
72.5°	250.8	254.1	247.4	233.8	220.2	199.9	186.3	172.8	155.8	142.3	135.5
73°	244.0	240.6	237.2	223.6	206.7	193.1	176.2	162.6	145.7	132.1	125.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	152.4	152.4	149.0	135.5	122.0	108.5	94.9	81.4	67.8	54.2	47.5
80°	105.1	108.5	101.7	94.9	84.8	71.2	57.6	47.5	33.9	27.1	20.3
82.5°	67.8	67.8	64.4	57.6	50.9	40.7	33.9	23.7	17.0	13.6	10.2
85°	33.9	37.3	33.9	30.5	23.7	20.3	17.0	10.2	6.8	3.4	3.4
87.5°	13.6	13.6	13.6	10.2	10.2	6.8	3.4	3.4	3.4	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°	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7	2500.7
2.5°	2490.6	2490.6	2483.8	2480.4	2477.0	2473.6	2470.2	2466.8	2466.8	2470.2
5°	2470.2	2463.4	2449.9	2446.5	2436.3	2432.9	2426.1	2422.8	2426.1	2422.8
7.5°	2439.7	2426.1	2409.2	2402.4	2388.9	2382.2	2372.0	2372.0	2365.2	2368.6
10°	2399.0	2378.8	2358.5	2344.9	2334.7	2324.6	2317.8	2311.0	2307.6	2307.6
12.5°	2348.3	2324.6	2304.2	2283.9	2266.9	2260.1	2246.6	2246.6	2239.8	2236.4
15°	2290.7	2260.1	2236.4	2216.1	2202.5	2189.0	2178.8	2172.0	2165.2	2165.2
17.5°	2216.1	2189.0	2165.2	2141.5	2121.3	2111.1	2100.9	2090.8	2090.8	2084.0
20°	2134.7	2104.3	2084.0	2060.2	2043.3	2026.3	2012.8	2012.8	2006.0	2009.4
22.5°	2043.3	2006.0	1985.7	1968.7	1951.8	1938.2	1924.6	1924.6	1921.3	1917.9
25°	1941.6	1911.1	1887.4	1867.1	1857.0	1843.4	1840.0	1833.2	1829.8	1829.8
27.5°	1833.2	1809.5	1779.0	1768.8	1755.3	1748.5	1748.5	1745.1	1738.3	1741.7
30°	1718.0	1690.8	1673.9	1667.1	1653.6	1653.6	1650.2	1643.4	1643.4	1646.8
32.5°	1606.2	1579.1	1565.5	1562.1	1548.6	1548.6	1545.2	1548.6	1548.6	1552.0
35°	1484.2	1460.4	1457.0	1446.9	1443.5	1443.5	1443.5	1450.3	1457.0	1446.9
37.5°	1369.0	1352.1	1341.9	1338.5	1341.9	1341.9	1345.3	1355.5	1352.1	1348.7
40°	1250.4	1236.8	1230.0	1230.0	1236.8	1243.6	1243.6	1253.8	1257.1	1253.8
42.5°	1131.7	1121.7	1121.7	1125.0	1131.7	1135.1	1145.3	1155.4	1158.8	1162.2
45°	1020.0	1020.0	1020.0	1023.3	1026.7	1033.5	1047.1	1057.2	1060.6	1064.0
47.5°	911.5	908.1	918.2	921.6	931.8	935.2	945.4	958.9	962.3	965.7
50°	809.9	816.7	820.1	830.2	837.0	837.0	850.6	857.3	867.5	867.5
52.5°	715.0	725.1	728.5	738.7	742.1	745.5	752.3	762.4	769.2	769.2
55°	630.2	633.6	640.4	643.8	653.9	657.3	664.1	667.5	677.7	674.3
56°	593.0	599.8	603.2	610.0	616.8	620.2	626.9	630.2	637.0	640.4
57°	559.1	562.5	572.7	576.1	582.9	582.9	586.3	596.4	596.4	599.8
58°	525.2	532.0	535.4	538.8	545.6	549.0	555.7	559.1	562.5	559.1
59°	494.7	498.1	501.5	501.5	508.3	508.3	518.5	525.2	528.6	528.6
60°	464.2	464.2	467.6	471.0	477.8	481.2	481.2	487.9	487.9	487.9
61°	433.7	433.7	437.1	440.5	443.9	443.9	450.6	450.6	454.0	457.4
62°	406.6	403.2	403.2	406.6	406.6	413.4	416.7	420.1	423.5	420.1
63°	376.2	372.8	372.8	372.8	372.8	379.5	379.5	382.8	389.6	386.2
64°	342.3	342.3	342.3	342.3	345.7	345.7	352.5	355.8	359.2	362.6
65°	318.6	311.8	308.4	308.4	311.8	315.2	318.6	321.9	325.3	325.3
66°	291.4	284.7	281.3	281.3	281.3	281.3	288.0	288.0	294.8	294.8
67°	260.9	254.1	250.8	247.4	247.4	247.4	257.5	254.1	254.1	254.1
67.5°	250.8	240.6	237.2	233.8	230.4	237.2	233.8	237.2	237.2	233.8
68°	237.2	230.4	223.6	216.8	216.8	216.8	220.2	223.6	220.2	216.8
69°	210.1	206.7	196.5	189.7	186.3	189.7	186.3	189.7	186.3	189.7
70°	186.3	176.2	166.0	162.6	159.2	159.2	159.2	155.8	159.2	155.8
71°	162.6	152.4	142.3	135.5	132.1	132.1	128.7	132.1	128.7	132.1
72°	138.9	128.7	115.3	108.5	108.5	108.5	108.5	105.1	108.5	105.1
72.5°	128.7	115.3	105.1	98.3	94.9	94.9	94.9	94.9	91.5	94.9
73°	118.7	105.1	91.5	88.1	88.1	88.1	84.8	81.4	84.8	84.8



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	40.7	30.5	27.1	27.1	27.1	27.1	27.1	27.1	23.7	23.7
80°	17.0	13.6	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
82.5°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
85°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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°	220.2	220.2	213.5	203.3	186.3	169.4	155.8	142.3	125.4	108.5	101.7
75°	203.3	199.9	193.1	182.9	169.4	152.4	138.9	122.0	108.5	91.5	84.8





74°	98.3	81.4	74.6	67.8	67.8	67.8	64.4	64.4	64.4	67.8
75°	78.0	64.4	57.6	50.9	54.2	50.9	54.2	50.9	50.9	50.9



(END OF REPORT)