

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: P585127

Luminaire Tested: **HC860D010-HM86080927-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585127
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: HC860D010-HM86080927-81RWWH
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: 4202.8 lumens
Efficiency: N/A
Efficacy: 75.1 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

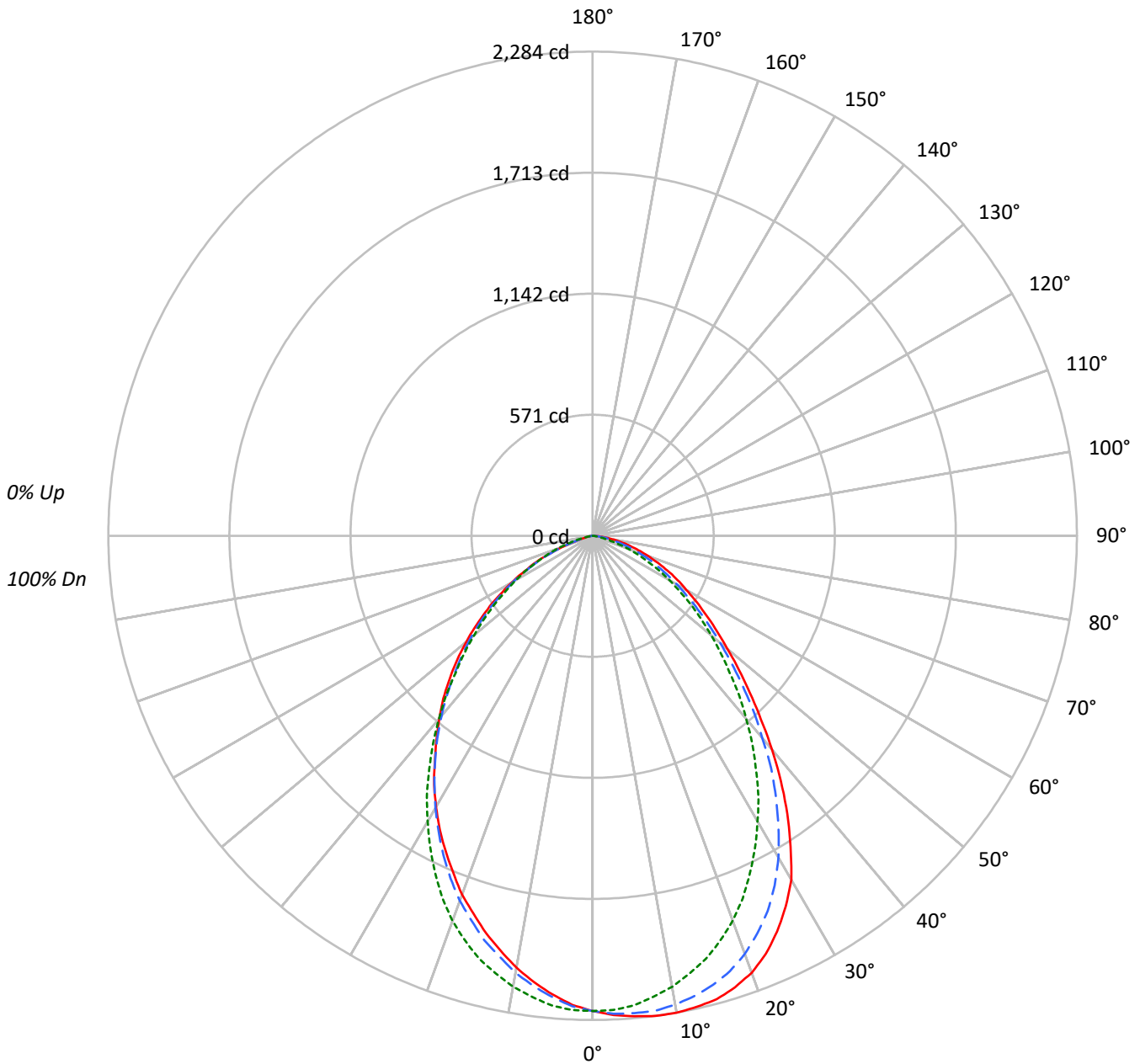
Input Watts (W): 56
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	69132	69132	69132
5°	70430	68830	67232
10°	71529	67631	64775
15°	72251	65946	61971
20°	71974	63402	59114
25°	70076	59740	55813
30°	66738	55383	52570
35°	60265	50545	48828
40°	52946	45366	45245
45°	45707	39876	41599
50°	39784	34977	37304
55°	35278	30381	32499
60°	31478	25662	26982
65°	28369	20839	21277
70°	25200	15607	12604
75°	21708	9043	5433
80°	16710	3232	1616
85°	10720	1061	1061



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.5	5.0
10°-20°	585.9	13.9
20°-30°	828.6	19.7
30°-40°	873.2	20.8
40°-50°	742.1	17.7
50°-60°	534.4	12.7
60°-70°	308.3	7.3
70°-80°	105.5	2.5
80°-90°	14.5	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°	1625.0	38.7
0°-40°	2498.1	59.4
0°-60°	3774.6	89.8
0°-90°	4202.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4202.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2242	2242	2242	2242	2242	
5°	2275	2260	2224	2184	2172	217
15°	2263	2193	2066	1975	1941	637
25°	2060	1953	1756	1665	1640	945
35°	1601	1507	1343	1294	1297	997
45°	1048	999	914	920	954	814
55°	656	604	565	586	604	590
65°	389	334	286	280	292	387
75°	182	137	76	49	46	192
85°	30	18	3	3	3	41
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°	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9
2.5°	2263.2	2266.2	2263.2	2263.2	2260.1	2257.1	2254.1	2251.0	2245.0	2238.9	2238.9
5°	2275.3	2281.4	2275.3	2275.3	2266.2	2260.1	2254.1	2245.0	2232.8	2223.6	2223.6
7.5°	2284.4	2284.4	2284.4	2275.3	2269.2	2260.1	2245.0	2229.8	2214.5	2199.4	2193.3
10°	2284.4	2284.4	2281.4	2269.2	2263.2	2245.0	2229.8	2208.5	2187.2	2166.0	2159.9
12.5°	2275.3	2278.3	2272.3	2260.1	2245.0	2223.6	2202.4	2175.1	2150.7	2126.4	2114.3
15°	2263.2	2260.1	2254.1	2238.9	2220.6	2193.3	2172.0	2141.6	2108.2	2077.9	2065.7
17.5°	2232.8	2232.8	2223.6	2208.5	2184.2	2153.7	2120.4	2087.0	2050.5	2017.1	2002.0
20°	2193.3	2193.3	2181.2	2162.9	2138.6	2099.1	2062.6	2023.2	1980.6	1947.2	1932.1
22.5°	2135.5	2138.6	2123.4	2102.2	2074.9	2029.3	1992.8	1944.2	1901.6	1862.2	1850.1
25°	2059.6	2065.7	2050.5	2029.3	1992.8	1953.3	1907.7	1862.2	1813.6	1774.0	1755.8
27.5°	1971.5	1974.6	1959.4	1938.1	1901.6	1859.2	1813.6	1764.9	1719.4	1676.8	1658.6
30°	1874.3	1862.2	1856.1	1828.7	1789.3	1752.8	1701.1	1661.7	1613.0	1576.6	1555.4
32.5°	1737.6	1743.7	1725.5	1704.1	1673.8	1631.3	1588.8	1543.2	1497.7	1470.2	1455.1
35°	1600.9	1607.0	1597.9	1576.6	1543.2	1506.8	1464.2	1430.8	1391.3	1357.9	1342.7
37.5°	1458.1	1458.1	1452.0	1439.9	1415.6	1382.2	1339.7	1306.2	1272.9	1245.4	1236.3
40°	1315.3	1309.3	1306.2	1297.1	1275.9	1245.4	1218.1	1190.8	1157.4	1139.2	1127.0
42.5°	1175.7	1175.7	1169.5	1160.4	1139.2	1124.0	1096.7	1066.3	1042.0	1023.8	1023.8
45°	1048.1	1051.1	1042.0	1035.9	1023.8	999.4	975.1	953.9	932.6	920.4	914.4
47.5°	935.6	935.6	926.5	920.4	908.3	887.1	865.7	847.5	832.4	823.3	820.2
50°	829.3	829.3	829.3	814.2	799.0	783.7	768.5	747.3	738.2	732.1	729.1
52.5°	738.2	735.2	735.2	723.0	707.8	689.6	674.4	656.2	647.1	640.9	644.1
55°	656.2	656.2	653.2	637.9	622.7	604.5	589.4	574.2	568.0	561.9	565.1
56°	622.7	622.7	619.7	607.6	589.4	574.2	555.9	540.7	531.6	534.6	534.6
57°	598.5	592.4	592.4	577.2	561.9	540.7	525.5	510.4	504.3	501.3	501.3
58°	568.0	565.1	561.9	546.8	531.6	513.4	498.2	483.0	473.9	473.9	470.8
59°	537.7	537.7	531.6	519.5	504.3	486.0	470.8	455.7	446.6	443.5	443.5
60°	510.4	513.4	504.3	492.2	479.9	458.7	440.5	428.4	419.3	416.1	416.1
61°	486.0	486.0	479.9	464.8	449.6	434.4	416.1	401.0	394.9	388.8	388.8
62°	464.8	458.7	455.7	440.5	425.3	407.0	391.9	376.7	367.6	361.5	364.6
63°	437.5	434.4	428.4	416.1	401.0	382.8	364.6	352.4	343.3	334.1	337.1
64°	416.1	413.1	404.0	391.9	376.7	358.5	340.3	328.0	322.0	312.9	309.8
65°	388.8	385.8	382.8	367.6	352.4	334.1	318.9	306.8	297.7	291.6	285.6
66°	364.6	367.6	361.5	349.4	331.1	315.9	294.7	282.5	276.5	267.4	261.2
67°	343.3	343.3	337.1	325.0	306.8	291.6	276.5	261.2	252.1	243.0	240.0
67.5°	331.1	331.1	325.0	309.8	297.7	279.5	264.2	252.1	240.0	233.9	227.8
68°	318.9	318.9	315.9	303.8	288.6	270.4	255.1	240.0	227.8	218.7	215.7
69°	297.7	300.7	294.7	282.5	267.4	249.1	233.9	221.8	209.6	200.5	194.5
70°	279.5	276.5	270.4	258.2	243.0	230.9	215.7	200.5	188.4	176.2	173.1
71°	255.1	255.1	249.1	240.0	224.8	209.6	194.5	182.2	170.1	154.9	151.9
72°	236.9	236.9	230.9	218.7	206.6	191.3	176.2	161.0	151.9	136.7	130.7
72.5°	224.8	227.8	221.8	209.6	197.5	179.2	167.1	154.9	139.8	127.6	121.6
73°	218.7	215.7	212.7	200.5	185.4	173.1	158.0	145.8	130.7	118.5	112.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	136.7	136.7	133.7	121.6	109.3	97.2	85.0	72.9	60.8	48.6	42.6
80°	94.1	97.2	91.1	85.0	75.9	63.8	51.7	42.6	30.3	24.3	18.2
82.5°	60.8	60.8	57.7	51.7	45.6	36.4	30.3	21.2	15.2	12.1	9.1
85°	30.3	33.4	30.3	27.3	21.2	18.2	15.2	9.1	6.1	3.0	3.0
87.5°	12.1	12.1	12.1	9.1	9.1	6.1	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°	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9	2241.9
2.5°	2232.8	2232.8	2226.8	2223.6	2220.6	2217.6	2214.5	2211.5	2211.5	2214.5
5°	2214.5	2208.5	2196.3	2193.3	2184.2	2181.2	2175.1	2172.0	2175.1	2172.0
7.5°	2187.2	2175.1	2159.9	2153.7	2141.6	2135.5	2126.4	2126.4	2120.4	2123.4
10°	2150.7	2132.5	2114.3	2102.2	2093.1	2084.0	2077.9	2071.7	2068.7	2068.7
12.5°	2105.2	2084.0	2065.7	2047.5	2032.3	2026.2	2014.1	2014.1	2008.0	2005.0
15°	2053.5	2026.2	2005.0	1986.7	1974.6	1962.4	1953.3	1947.2	1941.2	1941.2
17.5°	1986.7	1962.4	1941.2	1919.8	1901.6	1892.5	1883.4	1874.3	1874.3	1868.3
20°	1913.8	1886.5	1868.3	1846.9	1831.8	1816.6	1804.5	1804.5	1798.4	1801.4
22.5°	1831.8	1798.4	1780.2	1764.9	1749.8	1737.6	1725.5	1725.5	1722.5	1719.4
25°	1740.7	1713.3	1692.0	1673.8	1664.7	1652.6	1649.5	1643.5	1640.4	1640.4
27.5°	1643.5	1622.1	1594.8	1585.7	1573.6	1567.5	1567.5	1564.5	1558.4	1561.5
30°	1540.1	1515.9	1500.7	1494.6	1482.5	1482.5	1479.4	1473.4	1473.4	1476.4
32.5°	1439.9	1415.6	1403.5	1400.5	1388.2	1388.2	1385.2	1388.2	1388.2	1391.3
35°	1330.6	1309.3	1306.2	1297.1	1294.1	1294.1	1294.1	1300.2	1306.2	1297.1
37.5°	1227.2	1212.1	1203.0	1199.9	1203.0	1203.0	1206.0	1215.1	1212.1	1209.0
40°	1121.0	1108.8	1102.8	1102.8	1108.8	1114.9	1114.9	1124.0	1127.0	1124.0
42.5°	1014.6	1005.5	1005.5	1008.5	1014.6	1017.6	1026.8	1035.9	1039.0	1042.0
45°	914.4	914.4	914.4	917.4	920.4	926.5	938.6	947.7	950.9	953.9
47.5°	817.2	814.2	823.3	826.3	835.4	838.4	847.5	859.7	862.7	865.7
50°	726.1	732.1	735.2	744.3	750.3	750.3	762.5	768.5	777.6	777.6
52.5°	640.9	650.1	653.2	662.3	665.3	668.3	674.4	683.5	689.6	689.6
55°	565.1	568.0	574.2	577.2	586.3	589.4	595.4	598.5	607.6	604.5
56°	531.6	537.7	540.7	546.8	552.8	555.9	561.9	565.1	571.0	574.2
57°	501.3	504.3	513.4	516.4	522.5	522.5	525.5	534.6	534.6	537.7
58°	470.8	476.9	479.9	483.0	489.0	492.2	498.2	501.3	504.3	501.3
59°	443.5	446.6	449.6	449.6	455.7	455.7	464.8	470.8	473.9	473.9
60°	416.1	416.1	419.3	422.3	428.4	431.4	431.4	437.5	437.5	437.5
61°	388.8	388.8	391.9	394.9	397.9	397.9	404.0	404.0	407.0	410.1
62°	364.6	361.5	361.5	364.6	364.6	370.6	373.7	376.7	379.7	376.7
63°	337.1	334.1	334.1	334.1	334.1	340.3	340.3	343.3	349.4	346.4
64°	306.8	306.8	306.8	306.8	309.8	309.8	315.9	318.9	322.0	325.0
65°	285.6	279.5	276.5	276.5	279.5	282.5	285.6	288.6	291.6	291.6
66°	261.2	255.1	252.1	252.1	252.1	252.1	258.2	258.2	264.2	264.2
67°	233.9	227.8	224.8	221.8	221.8	221.8	230.9	227.8	227.8	227.8
67.5°	224.8	215.7	212.7	209.6	206.6	212.7	209.6	212.7	212.7	209.6
68°	212.7	206.6	200.5	194.5	194.5	194.5	197.5	200.5	197.5	194.5
69°	188.4	185.4	176.2	170.1	167.1	170.1	167.1	170.1	167.1	170.1
70°	167.1	158.0	148.9	145.8	142.8	142.8	142.8	139.8	142.8	139.8
71°	145.8	136.7	127.6	121.6	118.5	118.5	115.5	118.5	115.5	118.5
72°	124.6	115.5	103.2	97.2	97.2	97.2	97.2	94.1	97.2	94.1
72.5°	115.5	103.2	94.1	88.1	85.0	85.0	85.0	85.0	82.0	85.0
73°	106.3	94.1	82.0	79.0	79.0	79.0	75.9	72.9	75.9	75.9



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	36.4	27.3	24.3	24.3	24.3	24.3	24.3	24.3	21.2	21.2
80°	15.2	12.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
82.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
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°	197.5	197.5	191.3	182.2	167.1	151.9	139.8	127.6	112.3	97.2	91.1
75°	182.2	179.2	173.1	164.0	151.9	136.7	124.6	109.3	97.2	82.0	75.9





74°	88.1	72.9	66.8	60.8	60.8	60.8	57.7	57.7	57.7	60.8
75°	69.9	57.7	51.7	45.6	48.6	45.6	48.6	45.6	45.6	45.6



(END OF REPORT)