

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: P584345

Luminaire Tested: **HC830D010-HM82555935-81RWWH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584345
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: HC830D010-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: 2968.3 lumens
Efficiency: N/A
Efficacy: 106.0 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

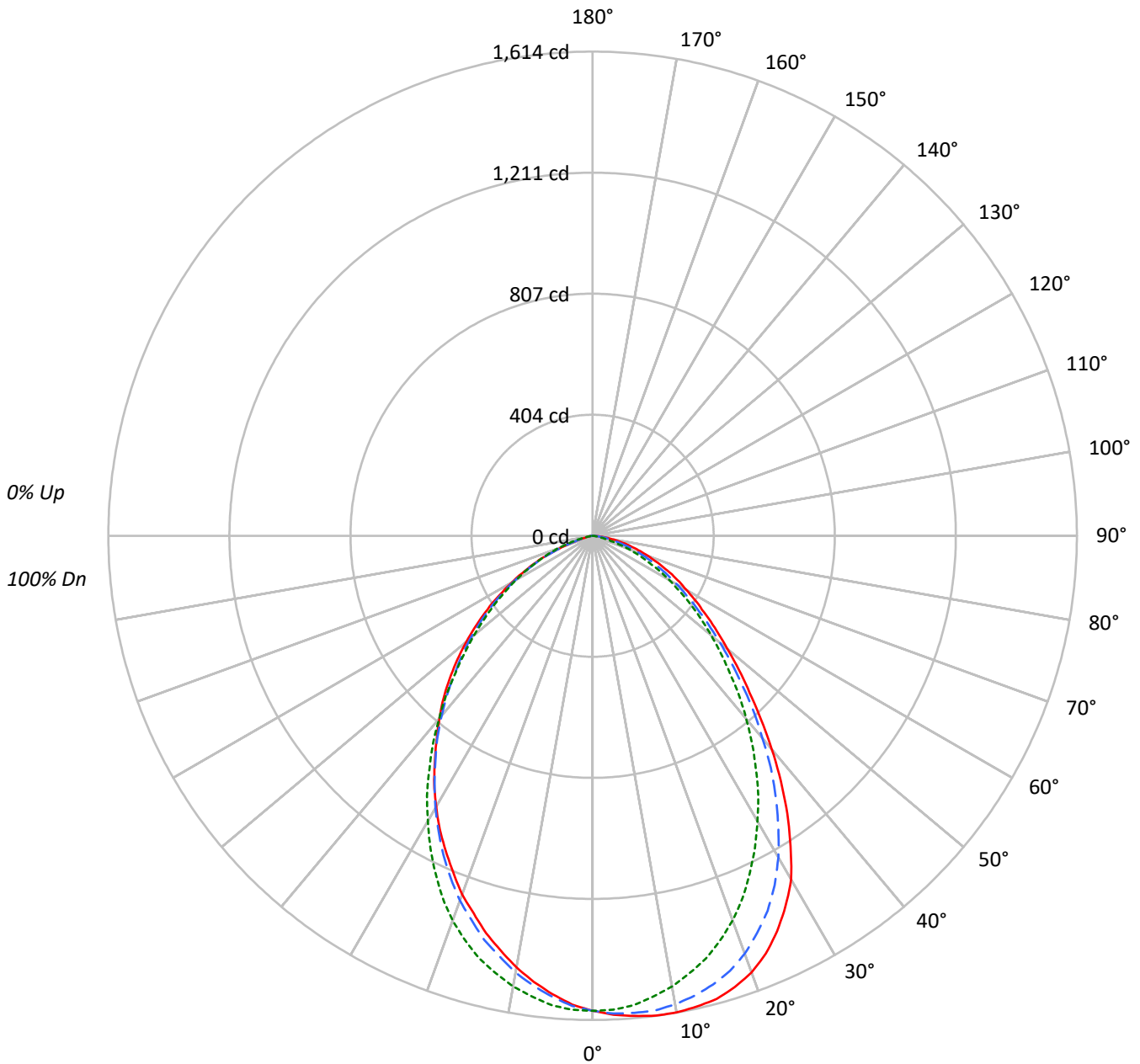
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	100	100
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88	88	88	88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77	77	77	77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67	67	67	67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59	59	59	59
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42	42	42	42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38	38	38	38
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	36	35	35	35	35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32	32	32	32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	48826	48826	48826
5°	49740	48617	47484
10°	50522	47766	45747
15°	51027	46574	43768
20°	50831	44777	41748
25°	49491	42193	39420
30°	47136	39114	37131
35°	42564	35698	34486
40°	37396	32042	31958
45°	32279	28158	29379
50°	28098	24706	26347
55°	24918	21451	22956
60°	22227	18126	19051
65°	20043	14717	15023
70°	17797	11026	8899
75°	15346	6386	3836
80°	11809	2273	1137
85°	7571	743	743



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.6	5.0
10°-20°	413.8	13.9
20°-30°	585.2	19.7
30°-40°	616.7	20.8
40°-50°	524.1	17.7
50°-60°	377.4	12.7
60°-70°	217.7	7.3
70°-80°	74.5	2.5
80°-90°	10.2	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°	1147.7	38.7
0°-40°	1764.4	59.4
0°-60°	2665.9	89.8
0°-90°	2968.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2968.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1583	1583	1583	1583	1583	
5°	1607	1596	1571	1543	1534	154
15°	1598	1549	1459	1395	1371	450
25°	1455	1380	1240	1176	1159	667
35°	1131	1064	948	914	916	704
45°	740	706	646	650	674	575
55°	464	427	399	414	427	417
65°	275	236	202	197	206	273
75°	129	96	54	34	32	136
85°	21	13	2	2	2	29
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°	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4
2.5°	1598.4	1600.5	1598.4	1598.4	1596.2	1594.1	1592.0	1589.8	1585.5	1581.3	1581.3
5°	1606.9	1611.3	1606.9	1606.9	1600.5	1596.2	1592.0	1585.5	1577.0	1570.6	1570.6
7.5°	1613.5	1613.5	1613.5	1606.9	1602.7	1596.2	1585.5	1574.8	1564.1	1553.3	1549.0
10°	1613.5	1613.5	1611.3	1602.7	1598.4	1585.5	1574.8	1559.7	1544.7	1529.8	1525.5
12.5°	1606.9	1609.1	1604.8	1596.2	1585.5	1570.6	1555.4	1536.2	1519.1	1501.8	1493.3
15°	1598.4	1596.2	1592.0	1581.3	1568.4	1549.0	1534.0	1512.5	1489.0	1467.6	1458.9
17.5°	1577.0	1577.0	1570.6	1559.7	1542.6	1521.2	1497.5	1474.0	1448.2	1424.7	1413.8
20°	1549.0	1549.0	1540.5	1527.6	1510.4	1482.6	1456.8	1428.9	1398.9	1375.3	1364.5
22.5°	1508.2	1510.4	1499.7	1484.7	1465.3	1433.2	1407.4	1373.2	1343.1	1315.2	1306.6
25°	1454.6	1458.9	1448.2	1433.2	1407.4	1379.6	1347.4	1315.2	1280.9	1253.0	1240.1
27.5°	1392.4	1394.6	1383.9	1368.8	1343.1	1313.0	1280.9	1246.5	1214.3	1184.4	1171.4
30°	1323.8	1315.2	1310.9	1291.6	1263.7	1238.0	1201.5	1173.5	1139.3	1113.5	1098.5
32.5°	1227.3	1231.6	1218.6	1203.6	1182.2	1152.1	1122.1	1090.0	1057.7	1038.5	1027.7
35°	1130.7	1135.0	1128.5	1113.5	1090.0	1064.2	1034.2	1010.5	982.6	959.0	948.3
37.5°	1029.8	1029.8	1025.5	1017.0	999.8	976.2	946.2	922.5	899.0	879.6	873.2
40°	929.0	924.7	922.5	916.1	901.1	879.6	860.4	841.0	817.4	804.6	796.0
42.5°	830.3	830.3	826.0	819.6	804.6	793.9	774.5	753.1	735.9	723.0	723.0
45°	740.2	742.3	735.9	731.6	723.0	705.9	688.7	673.7	658.7	650.1	645.7
47.5°	660.8	660.8	654.4	650.1	641.5	626.5	611.5	598.5	587.8	581.4	579.3
50°	585.7	585.7	585.7	575.0	564.3	553.6	542.8	527.8	521.4	517.1	515.0
52.5°	521.4	519.2	519.2	510.7	499.9	487.0	476.3	463.5	457.1	452.7	454.8
55°	463.5	463.5	461.3	450.5	439.8	427.0	416.3	405.4	401.2	396.9	399.0
56°	439.8	439.8	437.7	429.1	416.3	405.4	392.6	381.9	375.5	377.6	377.6
57°	422.7	418.4	418.4	407.6	396.9	381.9	371.2	360.4	356.1	354.0	354.0
58°	401.2	399.0	396.9	386.2	375.5	362.6	351.8	341.1	334.7	334.7	332.6
59°	379.8	379.8	375.5	366.9	356.1	343.3	332.6	321.9	315.4	313.3	313.3
60°	360.4	362.6	356.1	347.5	339.0	324.0	311.0	302.5	296.1	293.9	293.9
61°	343.3	343.3	339.0	328.3	317.6	306.8	293.9	283.2	278.9	274.7	274.7
62°	328.3	324.0	321.9	311.0	300.3	287.5	276.8	266.1	259.6	255.3	257.4
63°	308.9	306.8	302.5	293.9	283.2	270.4	257.4	248.9	242.4	236.0	238.2
64°	293.9	291.8	285.4	276.8	266.1	253.1	240.3	231.7	227.5	221.0	218.9
65°	274.7	272.5	270.4	259.6	248.9	236.0	225.3	216.8	210.2	205.9	201.7
66°	257.4	259.6	255.3	246.7	233.9	223.2	208.1	199.5	195.2	188.8	184.5
67°	242.4	242.4	238.2	229.6	216.8	205.9	195.2	184.5	178.1	171.7	169.6
67.5°	233.9	233.9	229.6	218.9	210.2	197.4	186.7	178.1	169.6	165.2	160.9
68°	225.3	225.3	223.2	214.5	203.8	191.0	180.3	169.6	160.9	154.5	152.3
69°	210.2	212.4	208.1	199.5	188.8	176.0	165.2	156.6	148.0	141.6	137.3
70°	197.4	195.2	191.0	182.4	171.7	163.0	152.3	141.6	133.0	124.5	122.3
71°	180.3	180.3	176.0	169.6	158.7	148.0	137.3	128.8	120.1	109.4	107.2
72°	167.3	167.3	163.0	154.5	145.9	135.2	124.5	113.7	107.2	96.5	92.3
72.5°	158.7	160.9	156.6	148.0	139.5	126.6	117.9	109.4	98.7	90.1	85.8
73°	154.5	152.3	150.2	141.6	130.9	122.3	111.5	103.0	92.3	83.7	79.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	96.5	96.5	94.4	85.8	77.3	68.6	60.0	51.5	42.9	34.4	30.1
80°	66.5	68.6	64.3	60.0	53.6	45.1	36.5	30.1	21.4	17.1	12.8
82.5°	42.9	42.9	40.8	36.5	32.2	25.8	21.4	15.0	10.7	8.6	6.4
85°	21.4	23.5	21.4	19.3	15.0	12.8	10.7	6.4	4.3	2.1	2.1
87.5°	8.6	8.6	8.6	6.4	6.4	4.3	2.1	2.1	2.1	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°	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4	1583.4
2.5°	1577.0	1577.0	1572.7	1570.6	1568.4	1566.3	1564.1	1561.9	1561.9	1564.1
5°	1564.1	1559.7	1551.2	1549.0	1542.6	1540.5	1536.2	1534.0	1536.2	1534.0
7.5°	1544.7	1536.2	1525.5	1521.2	1512.5	1508.2	1501.8	1501.8	1497.5	1499.7
10°	1519.1	1506.1	1493.3	1484.7	1478.3	1471.9	1467.6	1463.2	1461.0	1461.0
12.5°	1486.8	1471.9	1458.9	1446.1	1435.4	1431.1	1422.5	1422.5	1418.1	1416.0
15°	1450.3	1431.1	1416.0	1403.1	1394.6	1386.0	1379.6	1375.3	1371.0	1371.0
17.5°	1403.1	1386.0	1371.0	1355.9	1343.1	1336.7	1330.3	1323.8	1323.8	1319.4
20°	1351.7	1332.4	1319.4	1304.5	1293.8	1283.0	1274.4	1274.4	1270.1	1272.2
22.5°	1293.8	1270.1	1257.2	1246.5	1235.8	1227.3	1218.6	1218.6	1216.5	1214.3
25°	1229.4	1210.0	1195.1	1182.2	1175.7	1167.1	1165.0	1160.7	1158.6	1158.6
27.5°	1160.7	1145.7	1126.3	1119.9	1111.4	1107.1	1107.1	1104.9	1100.7	1102.8
30°	1087.8	1070.6	1059.9	1055.6	1047.0	1047.0	1044.9	1040.6	1040.6	1042.8
32.5°	1017.0	999.8	991.3	989.1	980.4	980.4	978.3	980.4	980.4	982.6
35°	939.8	924.7	922.5	916.1	914.0	914.0	914.0	918.3	922.5	916.1
37.5°	866.8	856.1	849.7	847.5	849.7	849.7	851.8	858.2	856.1	853.9
40°	791.6	783.1	778.8	778.8	783.1	787.4	787.4	793.9	796.0	793.9
42.5°	716.6	710.2	710.2	712.3	716.6	718.8	725.2	731.6	733.7	735.9
45°	645.7	645.7	645.7	647.9	650.1	654.4	663.0	669.4	671.5	673.7
47.5°	577.1	575.0	581.4	583.6	590.0	592.1	598.5	607.2	609.4	611.5
50°	512.8	517.1	519.2	525.7	529.9	529.9	538.5	542.8	549.2	549.2
52.5°	452.7	459.2	461.3	467.8	469.9	472.0	476.3	482.7	487.0	487.0
55°	399.0	401.2	405.4	407.6	414.1	416.3	420.5	422.7	429.1	427.0
56°	375.5	379.8	381.9	386.2	390.5	392.6	396.9	399.0	403.3	405.4
57°	354.0	356.1	362.6	364.8	369.1	369.1	371.2	377.6	377.6	379.8
58°	332.6	336.8	339.0	341.1	345.4	347.5	351.8	354.0	356.1	354.0
59°	313.3	315.4	317.6	317.6	321.9	321.9	328.3	332.6	334.7	334.7
60°	293.9	293.9	296.1	298.2	302.5	304.6	304.6	308.9	308.9	308.9
61°	274.7	274.7	276.8	278.9	281.1	281.1	285.4	285.4	287.5	289.6
62°	257.4	255.3	255.3	257.4	257.4	261.7	263.8	266.1	268.2	266.1
63°	238.2	236.0	236.0	236.0	236.0	240.3	240.3	242.4	246.7	244.6
64°	216.8	216.8	216.8	216.8	218.9	218.9	223.2	225.3	227.5	229.6
65°	201.7	197.4	195.2	195.2	197.4	199.5	201.7	203.8	205.9	205.9
66°	184.5	180.3	178.1	178.1	178.1	178.1	182.4	182.4	186.7	186.7
67°	165.2	160.9	158.7	156.6	156.6	156.6	163.0	160.9	160.9	160.9
67.5°	158.7	152.3	150.2	148.0	145.9	150.2	148.0	150.2	150.2	148.0
68°	150.2	145.9	141.6	137.3	137.3	137.3	139.5	141.6	139.5	137.3
69°	133.0	130.9	124.5	120.1	117.9	120.1	117.9	120.1	117.9	120.1
70°	117.9	111.5	105.1	103.0	100.8	100.8	100.8	98.7	100.8	98.7
71°	103.0	96.5	90.1	85.8	83.7	83.7	81.6	83.7	81.6	83.7
72°	88.0	81.6	73.0	68.6	68.6	68.6	68.6	66.5	68.6	66.5
72.5°	81.6	73.0	66.5	62.2	60.0	60.0	60.0	60.0	57.9	60.0
73°	75.1	66.5	57.9	55.8	55.8	55.8	53.6	51.5	53.6	53.6



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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	25.8	19.3	17.1	17.1	17.1	17.1	17.1	17.1	15.0	15.0
80°	10.7	8.6	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
82.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
85°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
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°	139.5	139.5	135.2	128.8	117.9	107.2	98.7	90.1	79.4	68.6	64.3
75°	128.8	126.6	122.3	115.8	107.2	96.5	88.0	77.3	68.6	57.9	53.6





74°	62.2	51.5	47.2	42.9	42.9	42.9	40.8	40.8	40.8	42.9
75°	49.3	40.8	36.5	32.2	34.4	32.2	34.4	32.2	32.2	32.2



(END OF REPORT)