

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: P584243

Luminaire Tested: **HC830D010-HM82555827-81RWWH**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584243  
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-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: 3075.0 lumens  
Efficiency: N/A  
Efficacy: 109.8 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

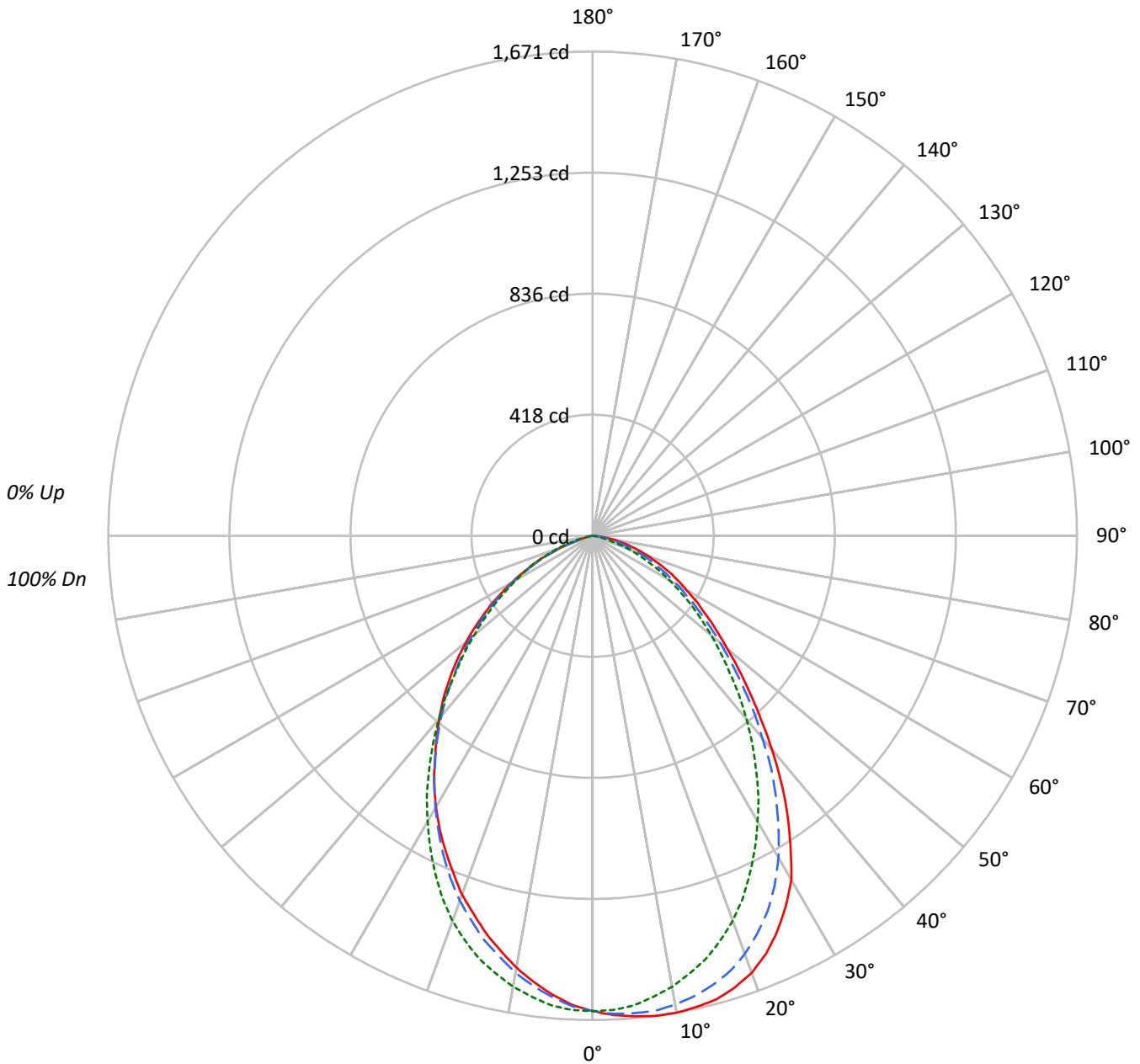
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	50581	50581	50581
5°	51529	50359	49192
10°	52335	49482	47394
15°	52860	48247	45342
20°	52659	46388	43251
25°	51271	43711	40836
30°	48831	40520	38462
35°	44093	36982	35728
40°	38740	33193	33101
45°	33439	29179	30435
50°	29105	25589	27292
55°	25811	22225	23779
60°	23022	18779	19741
65°	20759	15242	15571
70°	18438	11423	9223
75°	15894	6612	3967
80°	12217	2362	1190
85°	7855	814	814



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.0	5.0
10°-20°	428.7	13.9
20°-30°	606.3	19.7
30°-40°	638.9	20.8
40°-50°	542.9	17.7
50°-60°	391.0	12.7
60°-70°	225.5	7.3
70°-80°	77.2	2.5
80°-90°	10.6	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°	1188.9	38.7
0°-40°	1827.8	59.4
0°-60°	2761.7	89.8
0°-90°	3075.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3075.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1640	1640	1640	1640	1640	
5°	1665	1654	1627	1598	1589	159
15°	1656	1605	1511	1445	1420	466
25°	1507	1429	1285	1218	1200	691
35°	1171	1102	982	947	949	729
45°	767	731	669	673	698	596
55°	480	442	413	429	442	432
65°	284	244	209	204	213	283
75°	133	100	56	36	33	141
85°	22	13	2	2	2	30
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°	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3
2.5°	1655.8	1658.1	1655.8	1655.8	1653.7	1651.4	1649.1	1647.0	1642.5	1638.1	1638.1
5°	1664.7	1669.2	1664.7	1664.7	1658.1	1653.7	1649.1	1642.5	1633.6	1626.9	1626.9
7.5°	1671.4	1671.4	1671.4	1664.7	1660.3	1653.7	1642.5	1631.4	1620.3	1609.2	1604.7
10°	1671.4	1671.4	1669.2	1660.3	1655.8	1642.5	1631.4	1615.9	1600.3	1584.7	1580.3
12.5°	1664.7	1667.0	1662.5	1653.7	1642.5	1626.9	1611.3	1591.4	1573.6	1555.8	1546.9
15°	1655.8	1653.7	1649.1	1638.1	1624.8	1604.7	1589.2	1567.0	1542.5	1520.3	1511.3
17.5°	1633.6	1633.6	1626.9	1615.9	1598.0	1575.8	1551.4	1526.9	1500.3	1475.8	1464.7
20°	1604.7	1604.7	1595.9	1582.4	1564.7	1535.8	1509.2	1480.3	1449.2	1424.7	1413.6
22.5°	1562.5	1564.7	1553.5	1538.1	1518.0	1484.7	1458.1	1422.5	1391.4	1362.5	1353.6
25°	1506.9	1511.3	1500.3	1484.7	1458.1	1429.2	1395.8	1362.5	1326.9	1298.0	1284.7
27.5°	1442.5	1444.8	1433.6	1418.0	1391.4	1360.2	1326.9	1291.4	1258.0	1226.9	1213.5
30°	1371.4	1362.5	1358.0	1338.0	1309.1	1282.5	1244.6	1215.8	1180.2	1153.6	1138.0
32.5°	1271.3	1275.8	1262.5	1246.9	1224.7	1193.5	1162.4	1129.1	1095.8	1075.7	1064.6
35°	1171.3	1175.8	1169.1	1153.6	1129.1	1102.4	1071.3	1046.8	1017.9	993.5	982.4
37.5°	1066.9	1066.9	1062.4	1053.6	1035.7	1011.2	980.2	955.7	931.2	911.2	904.6
40°	962.4	958.0	955.7	949.1	933.5	911.2	891.3	871.3	846.8	833.5	824.6
42.5°	860.1	860.1	855.7	849.1	833.5	822.3	802.3	780.1	762.4	749.1	749.1
45°	766.8	769.0	762.4	757.9	749.1	731.2	713.4	697.9	682.4	673.4	669.1
47.5°	684.5	684.5	677.8	673.4	664.5	649.0	633.5	620.1	609.0	602.3	600.1
50°	606.7	606.7	606.7	595.7	584.5	573.5	562.3	546.8	540.0	535.6	533.4
52.5°	540.0	537.9	537.9	529.0	517.8	504.5	493.4	480.1	473.5	468.9	471.2
55°	480.1	480.1	477.9	466.8	455.6	442.3	431.1	420.1	415.7	411.2	413.4
56°	455.6	455.6	453.4	444.6	431.1	420.1	406.8	395.6	388.9	391.2	391.2
57°	437.9	433.4	433.4	422.3	411.2	395.6	384.5	373.3	368.9	366.7	366.7
58°	415.7	413.4	411.2	400.1	388.9	375.6	364.5	353.4	346.7	346.7	344.5
59°	393.4	393.4	388.9	380.1	368.9	355.6	344.5	333.4	326.7	324.5	324.5
60°	373.3	375.6	368.9	360.0	351.2	335.7	322.2	313.4	306.8	304.5	304.5
61°	355.6	355.6	351.2	340.1	329.0	317.8	304.5	293.3	288.9	284.5	284.5
62°	340.1	335.7	333.4	322.2	311.2	297.8	286.7	275.6	269.0	264.4	266.7
63°	320.1	317.8	313.4	304.5	293.3	280.0	266.7	257.8	251.1	244.5	246.7
64°	304.5	302.2	295.6	286.7	275.6	262.3	249.0	240.1	235.5	228.9	226.7
65°	284.5	282.3	280.0	269.0	257.8	244.5	233.4	224.5	217.8	213.4	208.9
66°	266.7	269.0	264.4	255.6	242.3	231.1	215.6	206.6	202.2	195.6	191.2
67°	251.1	251.1	246.7	237.8	224.5	213.4	202.2	191.2	184.5	177.8	175.6
67.5°	242.3	242.3	237.8	226.7	217.8	204.5	193.3	184.5	175.6	171.1	166.7
68°	233.4	233.4	231.1	222.2	211.2	197.8	186.7	175.6	166.7	160.0	157.8
69°	217.8	220.1	215.6	206.6	195.6	182.3	171.1	162.3	153.4	146.7	142.2
70°	204.5	202.2	197.8	188.9	177.8	169.0	157.8	146.7	137.8	128.9	126.7
71°	186.7	186.7	182.3	175.6	164.4	153.4	142.2	133.4	124.5	113.3	111.2
72°	173.4	173.4	169.0	160.0	151.1	140.1	128.9	117.8	111.2	100.0	95.6
72.5°	164.4	166.7	162.3	153.4	144.5	131.1	122.2	113.3	102.3	93.3	88.9
73°	160.0	157.8	155.6	146.7	135.5	126.7	115.6	106.7	95.6	86.7	82.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
77.5°	100.0	100.0	97.7	88.9	80.0	71.1	62.2	53.4	44.5	35.6	31.2
80°	68.8	71.1	66.7	62.2	55.5	46.7	37.8	31.2	22.2	17.8	13.3
82.5°	44.5	44.5	42.2	37.8	33.3	26.6	22.2	15.6	11.1	8.9	6.7
85°	22.2	24.5	22.2	20.0	15.6	13.3	11.1	6.7	4.4	2.3	2.3
87.5°	8.9	8.9	8.9	6.7	6.7	4.4	2.3	2.3	2.3	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°	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3	1640.3
2.5°	1633.6	1633.6	1629.2	1626.9	1624.8	1622.5	1620.3	1618.1	1618.1	1620.3
5°	1620.3	1615.9	1606.9	1604.7	1598.0	1595.9	1591.4	1589.2	1591.4	1589.2
7.5°	1600.3	1591.4	1580.3	1575.8	1567.0	1562.5	1555.8	1555.8	1551.4	1553.5
10°	1573.6	1560.3	1546.9	1538.1	1531.4	1524.7	1520.3	1515.9	1513.6	1513.6
12.5°	1540.2	1524.7	1511.3	1498.0	1487.0	1482.4	1473.6	1473.6	1469.1	1466.9
15°	1502.5	1482.4	1466.9	1453.6	1444.8	1435.8	1429.2	1424.7	1420.3	1420.3
17.5°	1453.6	1435.8	1420.3	1404.7	1391.4	1384.7	1378.1	1371.4	1371.4	1366.9
20°	1400.3	1380.2	1366.9	1351.3	1340.2	1329.1	1320.3	1320.3	1315.7	1318.0
22.5°	1340.2	1315.7	1302.4	1291.4	1280.2	1271.3	1262.5	1262.5	1260.2	1258.0
25°	1273.5	1253.6	1238.0	1224.7	1218.0	1209.1	1206.8	1202.4	1200.2	1200.2
27.5°	1202.4	1186.9	1166.9	1160.2	1151.3	1146.9	1146.9	1144.7	1140.3	1142.4
30°	1126.8	1109.1	1097.9	1093.5	1084.6	1084.6	1082.5	1077.9	1077.9	1080.2
32.5°	1053.6	1035.7	1026.8	1024.7	1015.8	1015.8	1013.5	1015.8	1015.8	1017.9
35°	973.6	958.0	955.7	949.1	946.8	946.8	946.8	951.3	955.7	949.1
37.5°	897.9	886.9	880.1	878.0	880.1	880.1	882.4	889.0	886.9	884.6
40°	820.2	811.3	806.9	806.9	811.3	815.7	815.7	822.3	824.6	822.3
42.5°	742.3	735.6	735.6	737.9	742.3	744.6	751.2	757.9	760.1	762.4
45°	669.1	669.1	669.1	671.2	673.4	677.8	686.8	693.4	695.7	697.9
47.5°	597.8	595.7	602.3	604.6	611.3	613.4	620.1	629.0	631.2	633.5
50°	531.2	535.6	537.9	544.6	549.0	549.0	557.9	562.3	568.9	568.9
52.5°	468.9	475.6	477.9	484.5	486.8	488.9	493.4	500.1	504.5	504.5
55°	413.4	415.7	420.1	422.3	429.0	431.1	435.6	437.9	444.6	442.3
56°	388.9	393.4	395.6	400.1	404.5	406.8	411.2	413.4	417.8	420.1
57°	366.7	368.9	375.6	377.9	382.3	382.3	384.5	391.2	391.2	393.4
58°	344.5	349.0	351.2	353.4	357.9	360.0	364.5	366.7	368.9	366.7
59°	324.5	326.7	329.0	329.0	333.4	333.4	340.1	344.5	346.7	346.7
60°	304.5	304.5	306.8	308.9	313.4	315.6	315.6	320.1	320.1	320.1
61°	284.5	284.5	286.7	288.9	291.2	291.2	295.6	295.6	297.8	300.1
62°	266.7	264.4	264.4	266.7	266.7	271.2	273.4	275.6	277.9	275.6
63°	246.7	244.5	244.5	244.5	244.5	249.0	249.0	251.1	255.6	253.4
64°	224.5	224.5	224.5	224.5	226.7	226.7	231.1	233.4	235.5	237.8
65°	208.9	204.5	202.2	202.2	204.5	206.6	208.9	211.2	213.4	213.4
66°	191.2	186.7	184.5	184.5	184.5	184.5	188.9	188.9	193.3	193.3
67°	171.1	166.7	164.4	162.3	162.3	162.3	169.0	166.7	166.7	166.7
67.5°	164.4	157.8	155.6	153.4	151.1	155.6	153.4	155.6	155.6	153.4
68°	155.6	151.1	146.7	142.2	142.2	142.2	144.5	146.7	144.5	142.2
69°	137.8	135.5	128.9	124.5	122.2	124.5	122.2	124.5	122.2	124.5
70°	122.2	115.6	108.9	106.7	104.5	104.5	104.5	102.3	104.5	102.3
71°	106.7	100.0	93.3	88.9	86.7	86.7	84.4	86.7	84.4	86.7
72°	91.1	84.4	75.6	71.1	71.1	71.1	71.1	68.8	71.1	68.8
72.5°	84.4	75.6	68.8	64.4	62.2	62.2	62.2	62.2	60.0	62.2
73°	77.8	68.8	60.0	57.8	57.8	57.8	55.5	53.4	55.5	55.5





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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
77.5°	26.6	20.0	17.8	17.8	17.8	17.8	17.8	17.8	15.6	15.6
80°	11.1	8.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
82.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
85°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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°	144.5	144.5	140.1	133.4	122.2	111.2	102.3	93.3	82.3	71.1	66.7
75°	133.4	131.1	126.7	120.0	111.2	100.0	91.1	80.0	71.1	60.0	55.5







74°	64.4	53.4	48.9	44.5	44.5	44.5	42.2	42.2	42.2	44.5
75°	51.1	42.2	37.8	33.3	35.6	33.3	35.6	33.3	33.3	33.3



(END OF REPORT)