

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: P580556

Luminaire Tested: **HC440D010-HM43040827-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580556  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC440D010-HM43040827-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3874.3 lumens  
Efficiency: N/A  
Efficacy: 94.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

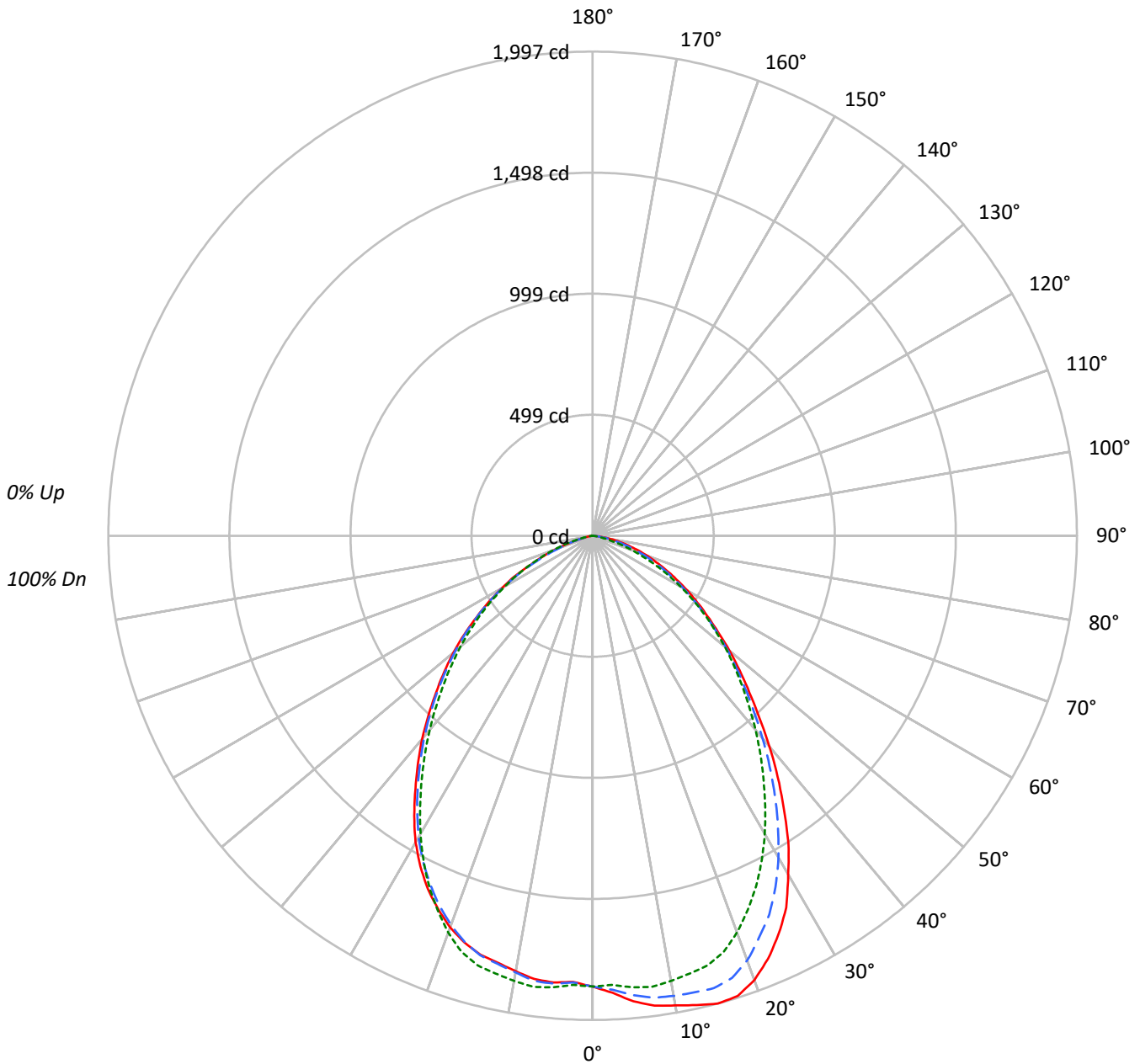
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76			76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67			67
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58			58
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52			52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46			46
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41			41
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37			37
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34			34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31			31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	229324	229324	229324
5°	238595	231451	228962
10°	246389	233488	228453
15°	255062	234209	228437
20°	255908	228540	225573
25°	246880	217129	218844
30°	229735	202175	207915
35°	206938	184999	191805
40°	182448	168294	175975
45°	159523	151638	159087
50°	141271	136454	143669
55°	124275	120491	125351
60°	110937	102870	106003
65°	97540	83589	82130
70°	85183	61597	56187
75°	70628	37125	29929
80°	53487	14277	8950
85°	24908	3538	3538



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.3	4.6
10°-20°	523.3	13.5
20°-30°	757.9	19.6
30°-40°	799.6	20.6
40°-50°	692.0	17.9
50°-60°	512.6	13.2
60°-70°	295.5	7.6
70°-80°	103.2	2.7
80°-90°	10.8	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°	1460.5	37.7
0°-40°	2260.1	58.3
0°-60°	3464.8	89.4
0°-90°	3874.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3874.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1859	1859	1859	1859	1859	
5°	1927	1902	1869	1854	1849	185
15°	1997	1932	1834	1791	1789	562
25°	1814	1724	1595	1585	1608	830
35°	1374	1312	1229	1256	1274	858
45°	914	889	869	902	912	710
55°	578	565	560	580	583	521
65°	334	314	286	271	281	334
75°	148	126	78	63	63	159
85°	18	10	2	2	2	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1859.2	1859.2	1859.2	1859.2	1859.2	1859.2	1859.2	1859.2	1859.2
2.5°	1886.9	1881.8	1874.3	1864.2	1854.1	1846.6	1844.2	1841.6	1841.6
5°	1927.0	1917.0	1901.9	1881.8	1869.3	1861.8	1854.1	1849.2	1849.2
7.5°	1954.7	1944.6	1922.1	1894.4	1876.8	1861.8	1851.7	1844.2	1844.2
10°	1967.2	1954.7	1927.0	1891.9	1864.2	1844.2	1829.0	1824.0	1824.0
12.5°	1982.3	1967.2	1929.6	1884.3	1849.2	1824.0	1809.0	1803.9	1803.9
15°	1997.4	1979.8	1932.0	1879.4	1834.1	1803.9	1791.4	1788.9	1788.9
17.5°	1989.9	1967.2	1912.0	1849.2	1798.9	1768.7	1756.2	1756.2	1758.7
20°	1949.6	1927.0	1864.2	1793.9	1741.1	1718.5	1708.5	1713.4	1718.5
22.5°	1889.3	1861.8	1793.9	1726.0	1670.7	1650.7	1650.7	1658.2	1665.8
25°	1814.0	1788.9	1723.5	1648.2	1595.4	1580.3	1585.3	1597.9	1608.0
27.5°	1728.6	1700.9	1633.1	1562.8	1510.0	1502.5	1515.0	1532.6	1537.6
30°	1613.0	1590.4	1532.6	1464.8	1419.5	1417.1	1434.7	1447.2	1459.8
32.5°	1502.5	1477.4	1422.0	1356.7	1324.0	1326.6	1346.7	1361.8	1369.3
35°	1374.3	1351.7	1311.5	1258.8	1228.6	1233.7	1256.2	1271.3	1273.8
37.5°	1253.7	1238.6	1198.5	1158.2	1135.6	1145.7	1165.7	1183.3	1183.3
40°	1133.1	1120.6	1090.4	1057.8	1045.2	1057.8	1077.8	1092.9	1092.9
42.5°	1017.5	1010.0	984.9	962.3	954.8	972.4	990.0	1002.5	999.9
45°	914.5	907.0	889.4	871.8	869.3	886.9	902.0	909.5	912.0
47.5°	821.6	816.5	801.5	789.0	789.0	806.4	819.0	826.6	829.1
50°	736.2	731.1	718.6	708.5	711.1	728.6	738.6	746.2	748.7
52.5°	650.7	648.2	638.2	625.6	633.1	645.7	658.3	663.3	665.8
55°	577.9	577.9	565.3	555.2	560.3	572.8	580.3	582.9	582.9
57.5°	512.5	510.1	494.9	484.9	487.4	500.0	505.0	507.5	507.5
60°	449.7	447.2	432.1	417.0	417.0	424.6	427.1	429.7	429.7
62.5°	389.4	387.0	369.4	356.8	351.8	349.2	349.2	354.2	364.3
65°	334.2	331.6	314.1	293.9	286.4	278.9	271.4	276.3	281.4
67.5°	283.9	278.9	261.3	243.7	226.1	213.6	201.0	208.5	218.6
70°	236.2	231.2	211.1	190.9	170.8	150.8	140.7	150.8	155.8
72.5°	190.9	186.0	165.8	145.7	120.6	100.6	98.0	100.6	103.0
75°	148.2	145.7	125.7	103.0	77.9	62.8	62.8	62.8	62.8
77.5°	110.5	105.5	85.4	65.4	45.2	35.2	32.6	32.6	32.6
80°	75.3	70.4	52.8	37.7	20.1	15.0	15.0	12.6	12.6
82.5°	42.7	40.2	27.7	15.0	7.5	5.0	5.0	5.0	5.0
85°	17.6	15.0	10.1	5.0	2.5	2.5	2.5	2.5	2.5
87.5°	2.5	2.5	2.5	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



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)