

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: P580685

Luminaire Tested: **HC440D010-HM43040940-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580685  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC440D010-HM43040940-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3686.8 lumens  
Efficiency: N/A  
Efficacy: 89.9 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

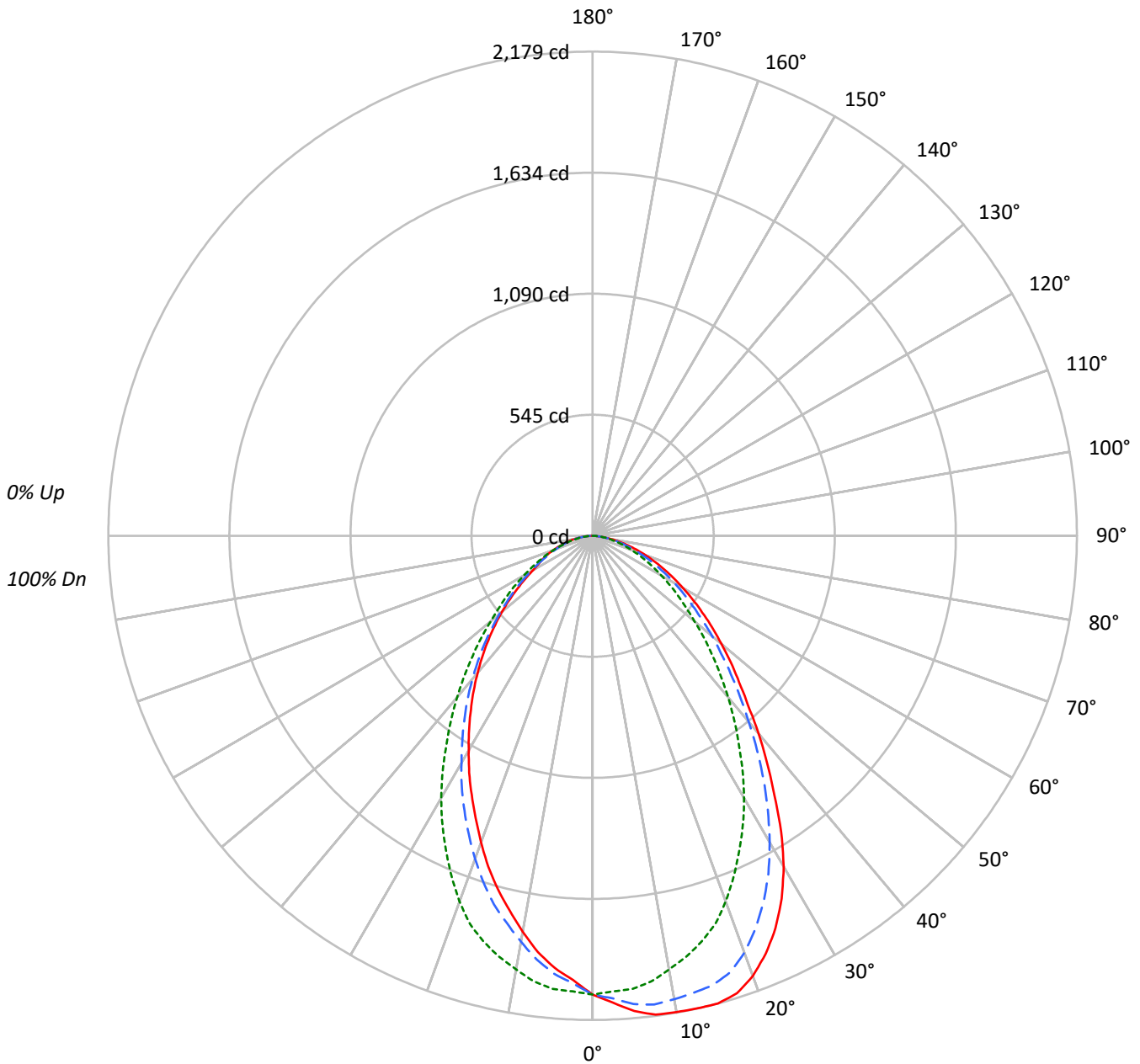
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76	76	76	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66	66	66	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58	58	58	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52	52	52	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47	47	47	47
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	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	42	37	47	41	37	46	41	37	35	35	35	35
10	59	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°	254635	254635	254635
5°	265847	253515	241789
10°	272566	248230	226637
15°	278213	241602	210278
20°	276726	229865	192574
25°	265089	212556	175184
30°	244918	194071	158778
35°	214678	172622	143726
40°	186940	152515	129457
45°	162697	133026	115669
50°	144936	114655	102067
55°	129523	100814	88277
60°	115649	88069	76104
65°	102793	77285	72294
70°	90232	66574	67439
75°	76394	56760	62526
80°	58672	48302	56968
85°	34390	37787	48118



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	193.5	5.2
10°-20°	533.8	14.5
20°-30°	729.3	19.8
30°-40°	732.3	19.9
40°-50°	605.8	16.4
50°-60°	439.0	11.9
60°-70°	278.1	7.5
70°-80°	140.6	3.8
80°-90°	34.4	0.9
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°	1456.6	39.5
0°-40°	2188.9	59.4
0°-60°	3233.7	87.7
0°-90°	3686.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3686.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2064	2064	2064	2064	2064	
5°	2147	2115	2048	1980	1953	206
15°	2179	2094	1892	1717	1647	613
25°	1948	1819	1562	1365	1287	890
35°	1426	1341	1146	1006	954	894
45°	933	879	763	687	663	725
55°	602	549	469	427	410	542
65°	352	313	265	238	248	351
75°	160	138	119	124	131	171
85°	24	24	27	32	34	34
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°	2064.4	2064.4	2064.4	2064.4	2064.4	2064.4	2064.4	2064.4	2064.4
2.5°	2103.3	2096.0	2083.9	2069.4	2052.3	2032.9	2015.9	2006.1	2001.3
5°	2147.1	2137.3	2115.4	2083.9	2047.5	2011.1	1979.5	1960.1	1952.8
7.5°	2173.7	2159.2	2127.7	2079.0	2023.2	1969.7	1923.6	1896.8	1889.6
10°	2176.2	2159.2	2117.9	2052.3	1981.9	1911.4	1855.6	1816.8	1809.5
12.5°	2178.7	2156.8	2105.8	2028.0	1940.6	1853.1	1785.2	1739.0	1726.9
15°	2178.7	2156.8	2093.6	2001.3	1892.0	1792.5	1717.1	1663.8	1646.7
17.5°	2159.2	2134.9	2059.6	1952.8	1833.7	1722.1	1634.6	1578.7	1561.8
20°	2108.2	2081.5	1996.5	1879.9	1751.2	1634.6	1547.2	1488.9	1467.1
22.5°	2035.3	2003.8	1913.9	1787.7	1658.9	1539.9	1454.8	1394.2	1374.7
25°	1947.8	1916.3	1819.2	1695.3	1561.8	1450.0	1365.0	1309.1	1287.2
27.5°	1841.0	1807.1	1712.3	1588.5	1464.6	1352.8	1275.1	1224.1	1202.3
30°	1719.6	1683.2	1593.3	1474.3	1362.6	1255.7	1180.4	1139.2	1114.8
32.5°	1578.7	1547.2	1467.1	1360.1	1255.7	1153.7	1090.5	1054.1	1034.7
35°	1425.7	1408.8	1340.7	1248.5	1146.4	1061.4	1005.5	971.6	954.5
37.5°	1289.7	1272.7	1214.4	1136.7	1046.8	969.1	922.9	893.8	879.2
40°	1161.0	1146.4	1090.5	1024.9	947.2	879.2	840.4	818.6	804.0
42.5°	1034.7	1027.4	981.2	920.6	852.5	794.2	762.6	745.7	733.5
45°	932.7	922.9	879.2	820.9	762.6	714.1	687.4	675.2	663.1
47.5°	842.8	830.7	784.5	733.5	680.1	636.4	612.1	600.0	595.0
50°	755.3	743.2	702.0	651.0	597.5	565.9	546.5	534.4	531.9
52.5°	677.6	665.5	619.4	570.8	529.4	502.8	485.7	473.6	468.8
55°	602.3	587.7	549.0	502.8	468.8	444.5	427.4	415.3	410.5
57.5°	534.4	519.8	485.7	442.0	410.5	388.7	374.1	361.9	357.0
60°	468.8	456.6	425.1	383.7	357.0	337.6	323.1	313.3	308.5
62.5°	408.0	398.3	366.8	330.4	308.5	291.5	279.4	269.6	274.4
65°	352.2	342.5	313.3	281.7	264.8	247.7	238.0	238.0	247.7
67.5°	298.7	289.0	264.8	238.0	223.4	211.3	204.0	211.3	218.6
70°	250.2	240.5	218.6	196.7	184.6	174.9	174.9	182.2	187.0
72.5°	204.0	194.3	177.3	160.3	150.6	143.3	150.6	155.5	160.3
75°	160.3	153.0	138.4	126.3	119.1	116.6	123.9	128.7	131.2
77.5°	119.1	114.1	104.5	94.7	89.9	92.3	99.5	102.0	104.5
80°	82.6	80.2	72.9	68.0	68.0	70.4	75.3	77.7	80.2
82.5°	51.0	51.0	46.2	43.7	46.2	51.0	53.5	55.8	55.8
85°	24.3	26.7	24.3	24.3	26.7	31.6	31.6	34.0	34.0
87.5°	7.3	7.3	9.8	9.8	12.1	12.1	12.1	12.1	14.6
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)