

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: P580649

Luminaire Tested: **HC440D010-HM43040930-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580649  
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-HM43040930-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3537.2 lumens  
Efficiency: N/A  
Efficacy: 86.3 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

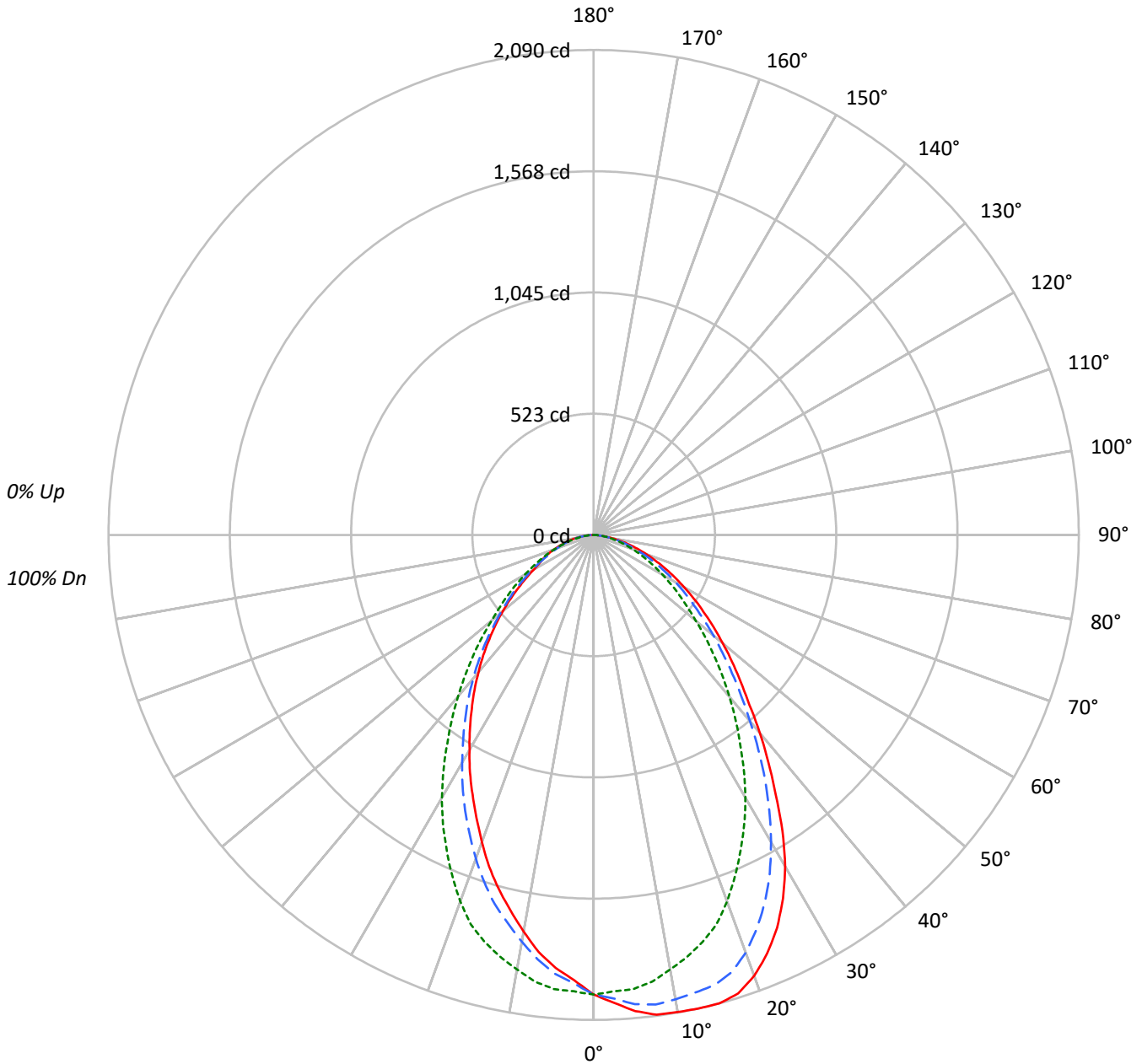
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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			100																
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87			87																
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76			76																
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66			66																
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58			58																
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52			52																
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47			47																
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	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	42	37	47	41	37	46	41	37	35			35																
10	59	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°	244311	244311	244311
5°	255050	243226	231971
10°	261519	238172	217444
15°	266912	231795	201748
20°	265503	220546	184751
25°	254351	203914	168080
30°	234991	186195	152326
35°	205960	165620	137884
40°	179340	146332	124208
45°	156086	127636	110977
50°	139064	110012	97922
55°	124275	96706	84685
60°	110937	84516	72996
65°	98620	74133	69375
70°	86553	63869	64735
75°	73297	54424	60000
80°	56328	46313	54624
85°	32975	36371	46137



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.7	5.2
10°-20°	512.1	14.5
20°-30°	699.7	19.8
30°-40°	702.6	19.9
40°-50°	581.2	16.4
50°-60°	421.2	11.9
60°-70°	266.8	7.5
70°-80°	134.9	3.8
80°-90°	33.0	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°	1397.5	39.5
0°-40°	2100.1	59.4
0°-60°	3102.5	87.7
0°-90°	3537.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3537.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1981	1981	1981	1981	1981	
5°	2060	2030	1964	1899	1874	197
15°	2090	2009	1815	1648	1580	588
25°	1869	1745	1498	1310	1235	854
35°	1368	1286	1100	965	916	857
45°	895	844	732	660	636	696
55°	578	527	450	410	394	520
65°	338	301	254	228	238	336
75°	154	133	114	119	126	164
85°	23	23	26	30	33	32
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°	1980.7	1980.7	1980.7	1980.7	1980.7	1980.7	1980.7	1980.7	1980.7
2.5°	2018.0	2011.1	1999.4	1985.4	1969.0	1950.4	1934.2	1924.8	1920.2
5°	2059.9	2050.6	2029.7	1999.4	1964.4	1929.5	1899.2	1880.5	1873.5
7.5°	2085.6	2071.6	2041.3	1994.7	1941.1	1889.9	1845.6	1819.9	1813.0
10°	2088.0	2071.6	2032.0	1969.0	1901.6	1834.0	1780.4	1743.0	1736.1
12.5°	2090.2	2069.3	2020.4	1945.8	1861.9	1778.0	1712.8	1668.5	1656.8
15°	2090.2	2069.3	2008.7	1920.2	1815.2	1719.7	1647.5	1596.2	1579.9
17.5°	2071.6	2048.3	1976.1	1873.5	1759.4	1652.1	1568.3	1514.7	1498.3
20°	2022.7	1997.1	1915.5	1803.6	1680.2	1568.3	1484.4	1428.5	1407.5
22.5°	1952.8	1922.5	1836.3	1715.1	1591.6	1477.4	1395.9	1337.6	1319.0
25°	1868.9	1838.6	1745.4	1626.6	1498.3	1391.2	1309.7	1256.0	1235.0
27.5°	1766.4	1733.7	1642.8	1524.0	1405.2	1298.0	1223.3	1174.5	1153.5
30°	1649.9	1614.9	1528.7	1414.5	1307.3	1204.7	1132.5	1092.9	1069.5
32.5°	1514.7	1484.4	1407.5	1305.0	1204.7	1106.9	1046.3	1011.4	992.6
35°	1367.8	1351.6	1286.3	1197.8	1099.9	1018.3	964.7	932.1	915.7
37.5°	1237.4	1221.1	1165.2	1090.6	1004.3	929.8	885.5	857.6	843.6
40°	1113.8	1099.9	1046.3	983.3	908.8	843.6	806.2	785.3	771.4
42.5°	992.6	985.7	941.4	883.1	817.9	761.9	731.7	715.4	703.8
45°	894.8	885.5	843.6	787.6	731.7	685.2	659.5	647.8	636.2
47.5°	808.6	796.9	752.6	703.8	652.4	610.5	587.2	575.6	570.9
50°	724.7	713.1	673.5	624.5	573.3	542.9	524.3	512.6	510.3
52.5°	650.2	638.5	594.2	547.6	508.0	482.4	466.0	454.5	449.7
55°	577.9	564.0	526.6	482.4	449.7	426.4	410.2	398.5	393.8
57.5°	512.6	498.7	466.0	424.1	393.8	372.8	358.8	347.2	342.6
60°	449.7	438.1	407.8	368.1	342.6	323.9	310.0	300.7	295.9
62.5°	391.5	382.1	351.9	316.9	295.9	279.6	268.0	258.6	263.3
65°	337.9	328.6	300.7	270.3	254.0	237.7	228.3	228.3	237.7
67.5°	286.6	277.3	254.0	228.3	214.3	202.8	195.7	202.8	209.7
70°	240.0	230.7	209.7	188.8	177.1	167.8	167.8	174.8	179.5
72.5°	195.7	186.4	170.1	153.8	144.5	137.4	144.5	149.1	153.8
75°	153.8	146.9	132.8	121.2	114.2	111.9	118.8	123.5	125.9
77.5°	114.2	109.5	100.2	90.9	86.2	88.6	95.5	97.9	100.2
80°	79.3	76.9	70.0	65.2	65.2	67.6	72.2	74.5	76.9
82.5°	49.0	49.0	44.3	41.9	44.3	49.0	51.2	53.6	53.6
85°	23.3	25.7	23.3	23.3	25.7	30.3	30.3	32.6	32.6
87.5°	7.0	7.0	9.3	9.3	11.7	11.7	11.7	11.7	14.0
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)