

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: P580594

Luminaire Tested: **HC440D010-HM43040835-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580594  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC440D010-HM43040835-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3309.4 lumens  
Efficiency: N/A  
Efficacy: 80.7 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

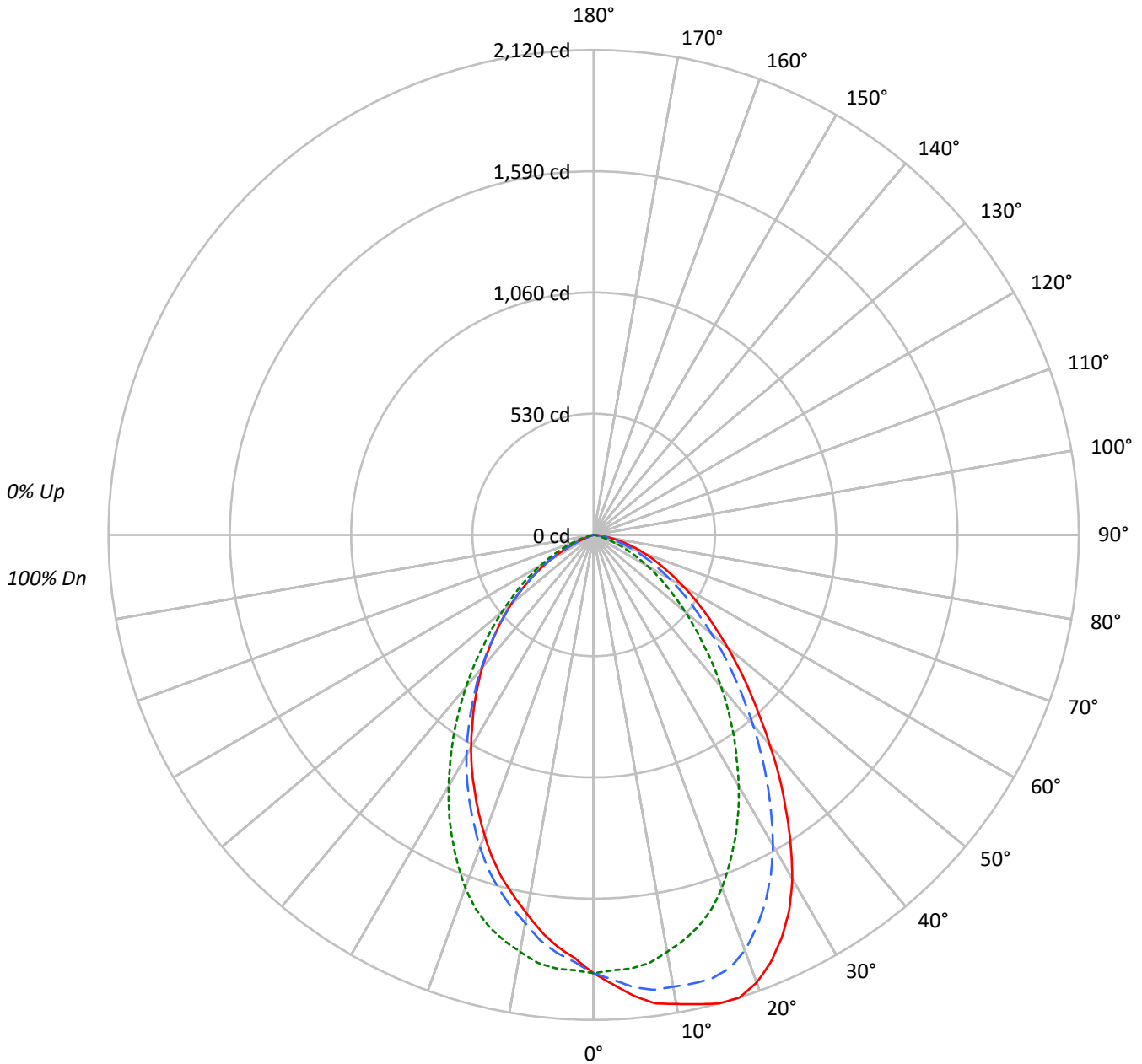
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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																			
1	111	108	104	101	109	105	102	100	101	99	97	97	95	94	94	92	91	89																			
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	85	83	80	78																			
3	96	87	80	75	94	86	79	74	83	78	73	80	76	72	78	74	71	69																			
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61																			
5	83	72	64	58	81	71	64	58	69	62	58	67	61	57	65	60	56	55																			
6	77	66	58	52	75	65	57	52	63	57	52	61	56	51	60	55	51	49																			
7	72	60	53	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44																			
8	68	56	48	43	66	55	48	43	54	47	42	53	47	42	51	46	42	40																			
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	43	39	37																			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	36	34																			

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

	0°	90°	180°
0°	236318	236318	236318
5°	250382	235537	223725
10°	260780	231772	210605
15°	270756	226215	198019
20°	273300	215361	183163
25°	264450	199178	167658
30°	247268	180498	152540
35°	220370	160455	137070
40°	192640	139537	122002
45°	167808	118390	105534
50°	146433	100417	90477
55°	128340	83223	73266
60°	112269	67223	53779
65°	97832	50112	30237
70°	85507	32421	9809
75°	70151	16871	2621
80°	52208	7742	1918
85°	30711	3821	3821



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	180.8	5.5
10°-20°	506.1	15.3
20°-30°	699.7	21.1
30°-40°	703.6	21.3
40°-50°	567.8	17.2
50°-60°	383.9	11.6
60°-70°	195.4	5.9
70°-80°	62.6	1.9
80°-90°	9.6	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°	1386.6	41.9
0°-40°	2090.2	63.2
0°-60°	3041.9	91.9
0°-90°	3309.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3309.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1916	1916	1916	1916	1916	
5°	2022	1984	1902	1834	1807	195
15°	2120	2006	1772	1602	1551	597
25°	1943	1774	1464	1284	1232	889
35°	1464	1322	1066	932	910	914
45°	962	861	679	605	605	745
55°	597	515	387	338	341	536
65°	335	272	172	112	104	336
75°	147	104	35	8	6	159
85°	22	11	3	3	3	29
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°	1915.9	1915.9	1915.9	1915.9	1915.9	1915.9	1915.9	1915.9	1915.9
2.5°	1967.7	1956.8	1945.9	1926.8	1905.0	1883.2	1869.6	1858.7	1853.2
5°	2022.2	2008.6	1984.1	1943.1	1902.3	1864.1	1834.2	1815.1	1806.9
7.5°	2065.8	2046.7	2005.8	1948.6	1886.0	1826.0	1787.8	1760.5	1749.7
10°	2082.1	2060.4	2005.8	1929.6	1850.5	1776.9	1722.4	1695.2	1681.5
12.5°	2101.2	2076.7	2008.6	1913.2	1815.1	1727.9	1665.1	1629.7	1616.1
15°	2120.3	2087.6	2005.8	1888.7	1771.5	1670.6	1602.5	1567.0	1550.7
17.5°	2120.3	2082.1	1984.1	1847.7	1714.2	1608.0	1531.6	1490.7	1477.1
20°	2082.1	2038.5	1932.3	1782.4	1640.7	1526.2	1452.6	1411.7	1395.4
22.5°	2022.2	1973.2	1858.7	1703.4	1553.5	1441.7	1368.1	1330.0	1313.6
25°	1943.1	1894.2	1774.2	1613.5	1463.5	1351.8	1283.7	1248.2	1231.9
27.5°	1850.5	1796.0	1676.1	1515.3	1368.1	1261.8	1199.1	1166.4	1152.8
30°	1736.1	1684.3	1567.0	1409.0	1267.3	1169.2	1111.9	1082.0	1071.0
32.5°	1602.5	1558.9	1444.4	1297.2	1163.7	1073.8	1022.0	997.5	986.6
35°	1463.5	1422.7	1321.8	1185.6	1065.6	981.1	932.1	915.7	910.3
37.5°	1332.6	1297.2	1199.1	1073.8	964.7	891.2	847.6	836.7	831.2
40°	1196.4	1171.9	1082.0	967.5	866.6	801.3	765.9	757.7	757.7
42.5°	1073.8	1046.6	967.5	864.0	774.1	708.6	684.0	675.9	678.7
45°	962.0	934.8	861.2	765.9	678.7	624.1	605.0	605.0	605.0
47.5°	858.5	833.9	765.9	667.7	596.8	553.2	534.2	534.2	536.8
50°	763.1	746.7	670.5	585.9	523.3	482.4	468.8	466.0	471.5
52.5°	673.2	654.1	585.9	509.6	449.6	417.0	403.3	400.6	403.3
55°	596.8	575.1	515.1	441.4	387.0	354.3	338.0	335.2	340.7
57.5°	523.3	506.9	444.3	378.8	327.0	294.4	280.7	275.2	278.0
60°	455.1	438.8	381.6	318.8	272.5	239.8	220.7	215.3	218.0
62.5°	392.5	378.8	324.3	264.3	218.0	188.1	168.9	155.4	160.8
65°	335.2	321.6	272.5	212.5	171.7	139.0	111.8	100.9	103.6
67.5°	286.2	269.8	223.5	168.9	128.1	92.7	62.7	57.3	57.3
70°	237.1	220.7	179.9	130.8	89.9	49.1	27.2	27.2	27.2
72.5°	190.8	177.1	139.0	98.1	57.3	21.7	10.9	10.9	10.9
75°	147.2	136.3	103.6	68.2	35.4	10.9	8.2	5.5	5.5
77.5°	109.0	98.1	73.5	46.3	21.7	5.5	5.5	5.5	5.5
80°	73.5	65.4	49.1	27.2	10.9	2.7	2.7	2.7	2.7
82.5°	43.6	38.1	27.2	13.7	5.5	2.7	2.7	2.7	2.7
85°	21.7	16.4	10.9	5.5	2.7	2.7	2.7	2.7	2.7
87.5°	5.5	2.7	2.7	2.7	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)