

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: P580956

Luminaire Tested: **HC450D010-HM44560935-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580956  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC450D010-HM44560935-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4170.4 lumens  
Efficiency: N/A  
Efficacy: 86.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

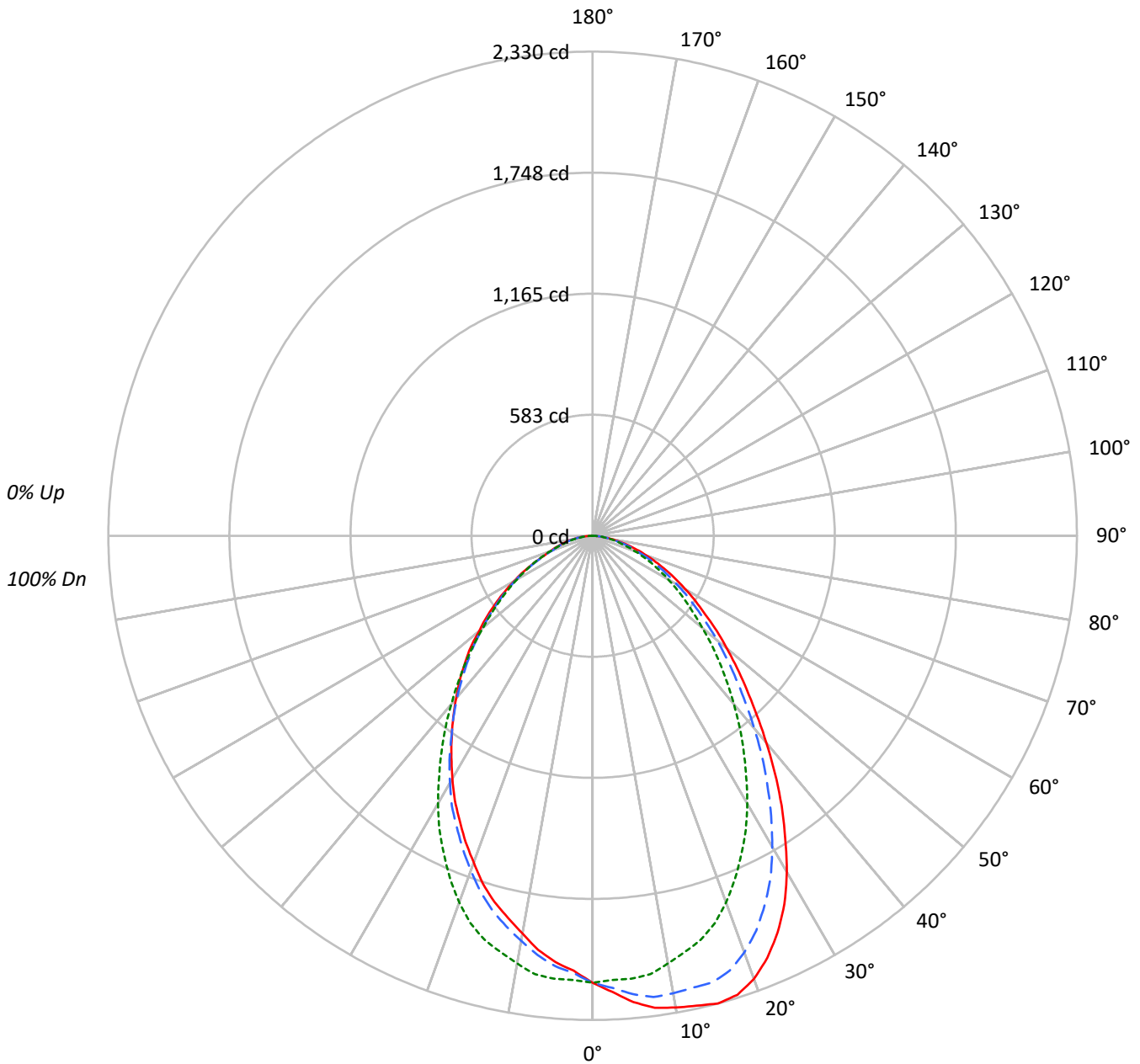
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75			
3	94	85	77	72	92	83	76	71	80	75	70	78	73	69	75	71	68	66			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	53	62	57	53	51			
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	47	46			
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41			
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37			
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34			
10	58	45	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31			

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

	0°	90°	180°
0°	265255	265255	265255
5°	278897	264894	254988
10°	288698	261732	243395
15°	297508	256977	233008
20°	297846	246391	219588
25°	286661	230303	205874
30°	266168	211918	192263
35°	238605	190796	177907
40°	209353	170243	164462
45°	182984	150714	151673
50°	161573	131887	136665
55°	142468	116964	122878
60°	127342	103512	107607
65°	112804	91061	91061
70°	98562	77645	77645
75°	84210	65767	73630
80°	66699	58814	66699
85°	42882	50807	62553



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.7	4.9
10°-20°	573.8	13.8
20°-30°	803.8	19.3
30°-40°	828.1	19.9
40°-50°	705.1	16.9
50°-60°	522.4	12.5
60°-70°	327.8	7.9
70°-80°	162.9	3.9
80°-90°	42.8	1.0
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°	1581.3	37.9
0°-40°	2409.5	57.8
0°-60°	3636.9	87.2
0°-90°	4170.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4170.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2150	2150	2150	2150	2150	
5°	2252	2214	2139	2079	2059	217
15°	2330	2225	2012	1866	1825	655
25°	2106	1960	1692	1546	1513	963
35°	1585	1466	1267	1184	1182	988
45°	1049	977	864	848	870	814
55°	662	610	544	555	571	599
65°	386	348	312	306	312	385
75°	177	157	138	149	154	189
85°	30	30	36	41	44	39
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°	2150.5	2150.5	2150.5	2150.5	2150.5	2150.5	2150.5	2150.5	2150.5
2.5°	2197.4	2189.1	2178.0	2158.6	2139.4	2122.8	2106.3	2098.0	2095.2
5°	2252.5	2236.0	2213.9	2178.0	2139.4	2106.3	2078.6	2064.9	2059.4
7.5°	2291.2	2274.7	2238.8	2183.6	2128.3	2078.6	2034.4	2015.2	2009.6
10°	2305.0	2285.6	2236.0	2161.4	2089.7	2028.9	1979.3	1954.4	1943.3
12.5°	2316.1	2291.2	2227.7	2139.4	2051.0	1976.5	1924.1	1891.0	1882.7
15°	2329.8	2302.2	2225.0	2117.2	2012.4	1924.1	1866.1	1835.7	1824.7
17.5°	2316.1	2285.6	2194.6	2073.1	1954.4	1857.8	1794.3	1766.7	1755.7
20°	2269.1	2236.0	2133.9	2004.1	1877.1	1777.7	1714.3	1686.6	1672.9
22.5°	2197.4	2161.4	2056.6	1918.5	1788.8	1692.2	1631.5	1603.8	1595.5
25°	2106.3	2070.3	1959.9	1819.1	1692.2	1598.3	1545.8	1521.0	1512.7
27.5°	1998.6	1962.7	1855.0	1717.1	1595.5	1507.2	1465.8	1441.0	1435.4
30°	1868.8	1833.0	1728.0	1601.1	1487.9	1405.1	1371.9	1352.6	1349.9
32.5°	1725.3	1694.9	1598.3	1482.4	1374.7	1305.7	1280.9	1267.1	1264.3
35°	1584.6	1551.3	1465.8	1360.9	1267.1	1206.3	1184.3	1181.5	1181.5
37.5°	1441.0	1407.9	1338.8	1242.2	1162.1	1107.0	1098.7	1101.5	1101.5
40°	1300.2	1269.8	1209.1	1129.0	1057.3	1015.9	1013.1	1018.7	1021.4
42.5°	1167.7	1142.9	1087.6	1018.7	957.9	924.8	927.6	938.5	946.8
45°	1049.0	1026.9	977.3	916.5	864.0	839.2	847.5	861.2	869.5
47.5°	941.3	922.0	875.1	819.8	775.7	759.2	770.1	786.7	797.8
50°	842.0	825.4	781.2	723.2	687.3	676.3	690.1	706.7	712.2
52.5°	753.6	737.0	690.1	640.4	612.8	607.3	621.1	634.9	643.2
55°	662.5	648.7	610.1	565.9	543.9	541.1	554.8	565.9	571.4
57.5°	587.9	574.2	538.3	499.7	480.3	477.6	491.4	499.7	502.4
60°	516.2	502.4	469.3	433.4	419.6	419.6	427.9	433.4	436.2
62.5°	450.0	436.2	405.8	375.4	364.4	364.4	364.4	367.2	375.4
65°	386.5	375.4	347.8	320.3	312.0	306.4	306.4	306.4	312.0
67.5°	328.4	317.5	295.3	270.6	262.2	253.9	251.2	256.7	256.7
70°	273.3	265.0	242.9	223.6	215.3	207.0	204.2	215.3	215.3
72.5°	223.6	215.3	201.5	182.2	173.9	171.1	176.7	182.2	185.0
75°	176.7	168.4	157.3	146.3	138.0	140.8	149.1	151.9	154.5
77.5°	132.5	129.7	118.7	110.4	110.4	113.1	118.7	124.2	127.0
80°	93.9	91.1	85.6	80.0	82.8	88.3	91.1	96.6	93.9
82.5°	58.0	58.0	55.2	55.2	58.0	63.5	66.2	69.0	71.7
85°	30.3	30.3	30.3	33.1	35.9	38.6	41.4	44.2	44.2
87.5°	8.3	11.1	11.1	13.8	16.6	16.6	19.4	19.4	19.4
90°	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°







(END OF REPORT)