

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: P580433

Luminaire Tested: **HC435D010-HM43040830-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580433  
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: HC435D010-HM43040830-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3567.4 lumens  
Efficiency: N/A  
Efficacy: 105.9 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

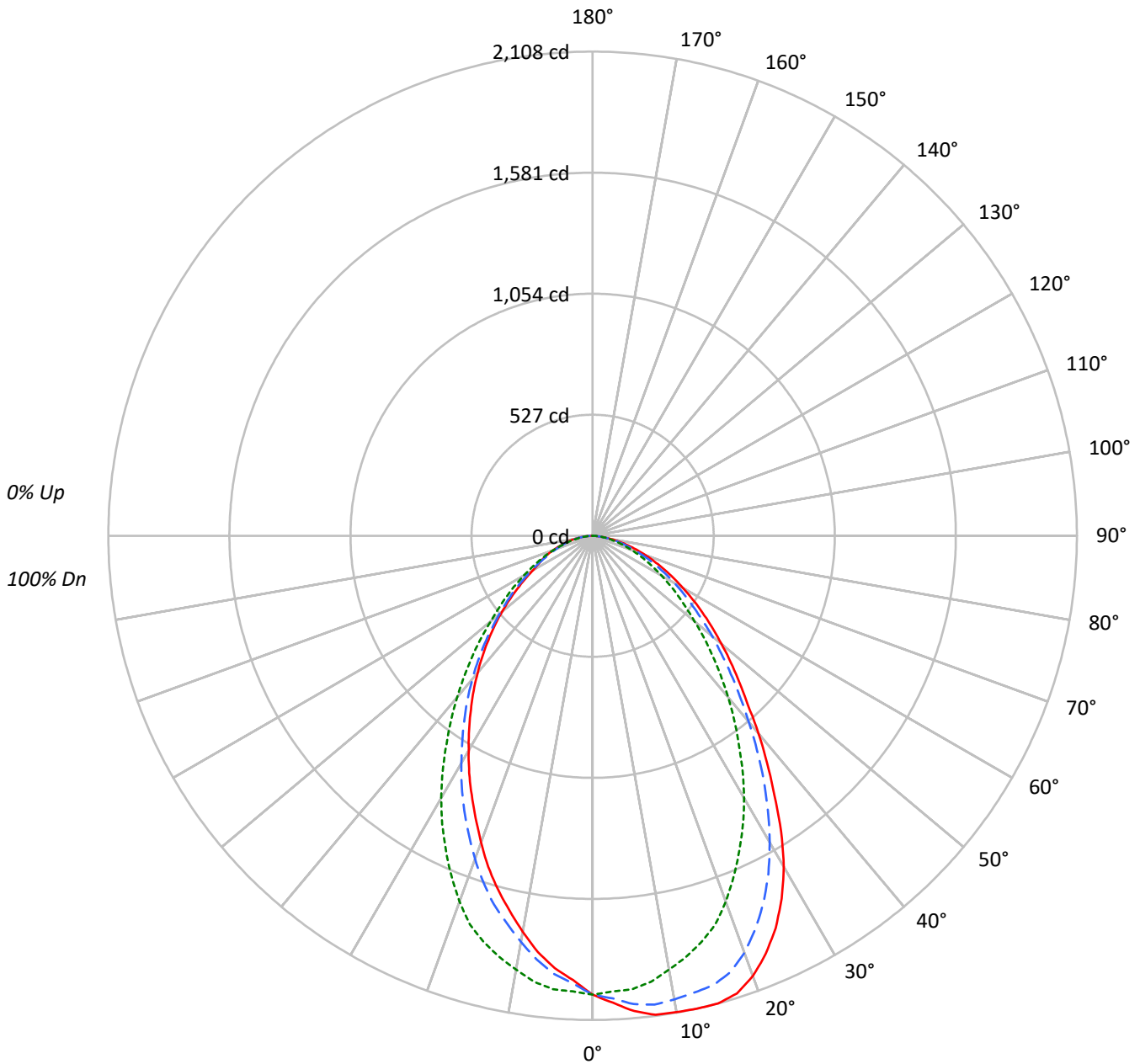
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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																			
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47																			
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	246408	246408	246408
5°	257242	245318	233964
10°	263748	240201	219297
15°	269210	233787	203485
20°	267761	222423	186326
25°	256515	205670	169522
30°	236999	187790	153636
35°	207736	167035	139073
40°	180886	147588	125255
45°	157429	128735	111919
50°	140254	110952	98767
55°	125351	97545	85416
60°	111899	85232	73613
65°	99466	74775	69959
70°	87311	64410	65276
75°	73916	54901	60477
80°	56755	46739	55121
85°	33258	36655	46561



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.3	5.2
10°-20°	516.5	14.5
20°-30°	705.7	19.8
30°-40°	708.6	19.9
40°-50°	586.2	16.4
50°-60°	424.8	11.9
60°-70°	269.1	7.5
70°-80°	136.0	3.8
80°-90°	33.3	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°	1409.4	39.5
0°-40°	2118.0	59.4
0°-60°	3129.0	87.7
0°-90°	3567.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3567.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1998	1998	1998	1998	1998	
5°	2078	2047	1981	1915	1890	199
15°	2108	2026	1831	1662	1594	593
25°	1885	1760	1511	1321	1246	861
35°	1380	1297	1109	973	924	865
45°	902	851	738	665	642	702
55°	583	531	454	414	397	524
65°	341	303	256	230	240	339
75°	155	134	115	120	127	166
85°	24	24	26	31	33	33
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°	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7
2.5°	2035.3	2028.3	2016.5	2002.4	1985.9	1967.1	1950.7	1941.3	1936.5
5°	2077.6	2068.2	2047.0	2016.5	1981.3	1946.0	1915.4	1896.6	1889.6
7.5°	2103.5	2089.3	2058.8	2011.7	1957.7	1906.0	1861.3	1835.5	1828.4
10°	2105.8	2089.3	2049.4	1985.9	1917.8	1849.7	1795.6	1757.9	1750.9
12.5°	2108.2	2087.0	2037.6	1962.4	1877.9	1793.2	1727.4	1682.7	1671.1
15°	2108.2	2087.0	2025.9	1936.5	1830.8	1734.4	1661.6	1609.9	1593.5
17.5°	2089.3	2065.8	1993.0	1889.6	1774.5	1666.3	1581.7	1527.6	1511.2
20°	2039.9	2014.1	1931.8	1819.1	1694.5	1581.7	1497.1	1440.6	1419.5
22.5°	1969.5	1938.9	1852.0	1729.7	1605.2	1490.1	1407.8	1349.0	1330.3
25°	1884.8	1854.3	1760.3	1640.5	1511.2	1403.1	1320.8	1266.7	1245.6
27.5°	1781.4	1748.6	1656.9	1537.1	1417.1	1309.1	1233.8	1184.5	1163.3
30°	1664.0	1628.7	1541.8	1426.6	1318.5	1215.0	1142.2	1102.2	1078.7
32.5°	1527.6	1497.1	1419.5	1316.1	1215.0	1116.4	1055.2	1020.0	1001.1
35°	1379.6	1363.1	1297.3	1208.0	1109.3	1027.0	972.9	940.1	923.6
37.5°	1248.0	1231.6	1175.1	1099.9	1012.9	937.8	893.1	864.9	850.8
40°	1123.4	1109.3	1055.2	991.8	916.6	850.8	813.2	792.0	777.9
42.5°	1001.1	994.2	949.4	890.8	824.9	768.5	738.0	721.5	709.8
45°	902.5	893.1	850.8	794.3	738.0	690.9	665.1	653.4	641.6
47.5°	815.6	803.8	759.1	709.8	658.1	615.7	592.2	580.5	575.8
50°	730.9	719.1	679.2	629.9	578.2	547.6	528.8	517.0	514.7
52.5°	655.7	643.9	599.3	552.3	512.3	486.5	470.1	458.3	453.6
55°	582.9	568.7	531.2	486.5	453.6	430.0	413.6	401.9	397.2
57.5°	517.0	503.0	470.1	427.8	397.2	376.0	361.9	350.1	345.5
60°	453.6	441.8	411.3	371.4	345.5	326.6	312.6	303.1	298.4
62.5°	394.9	385.4	354.8	319.7	298.4	282.0	270.3	260.9	265.6
65°	340.8	331.4	303.1	272.6	256.2	239.7	230.3	230.3	239.7
67.5°	289.1	279.7	256.2	230.3	216.3	204.5	197.4	204.5	211.5
70°	242.1	232.7	211.5	190.4	178.6	169.2	169.2	176.2	181.0
72.5°	197.4	188.0	171.5	155.1	145.7	138.7	145.7	150.4	155.1
75°	155.1	148.0	134.0	122.2	115.2	112.8	119.8	124.5	126.9
77.5°	115.2	110.5	101.0	91.6	87.0	89.4	96.3	98.7	101.0
80°	79.9	77.6	70.5	65.8	65.8	68.1	72.8	75.2	77.6
82.5°	49.3	49.3	44.6	42.3	44.6	49.3	51.7	54.1	54.1
85°	23.5	25.9	23.5	23.5	25.9	30.6	30.6	32.9	32.9
87.5°	7.1	7.1	9.4	9.4	11.8	11.8	11.8	11.8	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)