

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: P592778

Luminaire Tested: **HC435D010-HM43040850-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592778  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC435D010-HM43040850-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3782.8 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

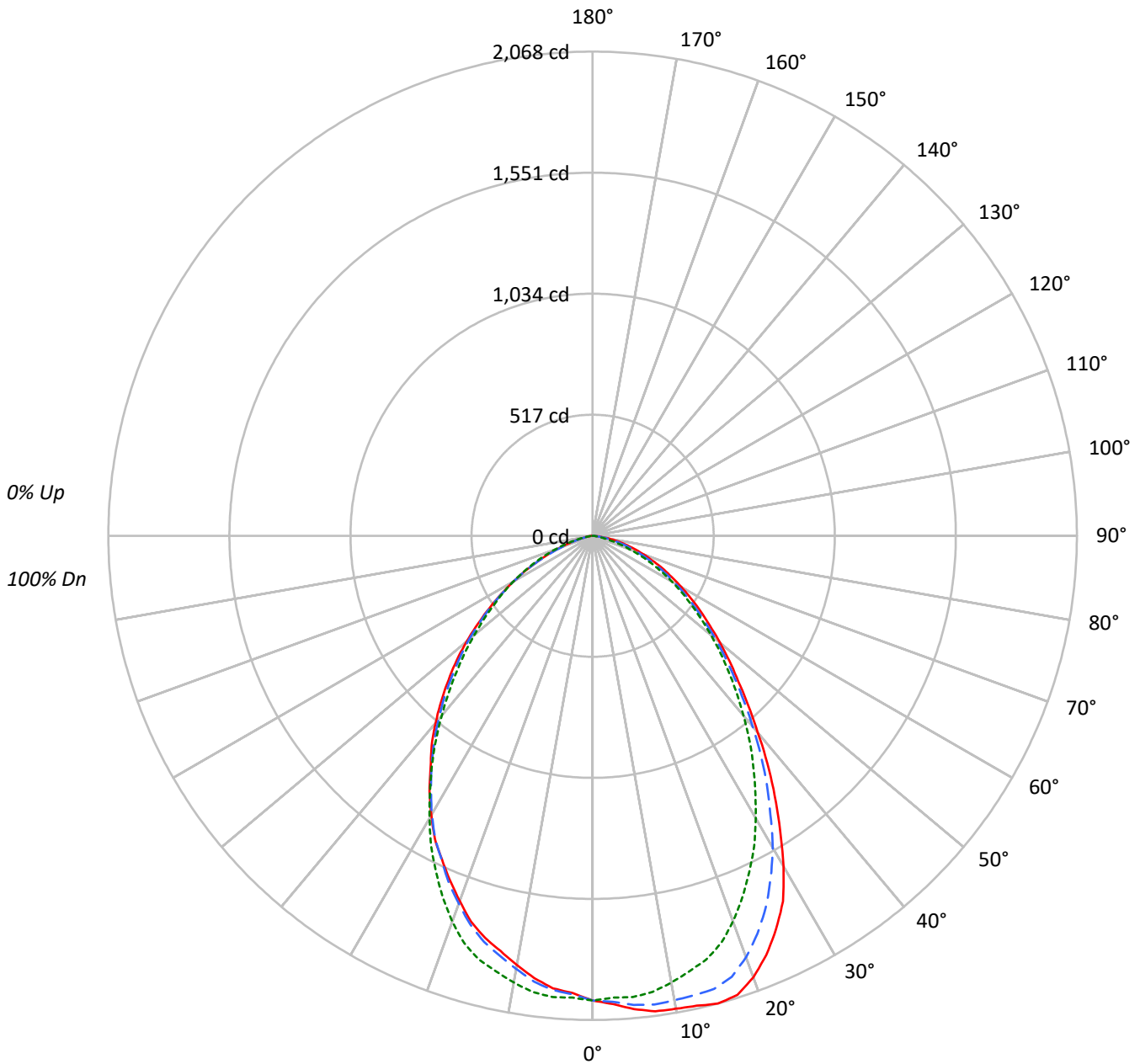
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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
1	111	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88				88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77				77
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67				67
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59				59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52				52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47				47
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	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	41	37	47	41	37	46	41	37	35				35
10	58	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°	244792	244792	244792
5°	251224	244811	240229
10°	256910	242706	233125
15°	264141	239265	226981
20°	263416	230089	217776
25°	252310	215414	207357
30°	232099	198401	196279
35°	204183	180045	181536
40°	176651	161161	167908
45°	153522	143213	151813
50°	136243	126303	134823
55°	120878	110792	115588
60°	107631	96111	96111
65°	95701	79882	74833
70°	82694	60479	53338
75°	69293	39984	32883
80°	52564	19250	17474
85°	27880	6935	6935



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	188.0	5.0
10°-20°	532.8	14.1
20°-30°	751.5	19.9
30°-40°	776.3	20.5
40°-50°	658.1	17.4
50°-60°	478.8	12.7
60°-70°	279.8	7.4
70°-80°	104.0	2.7
80°-90°	13.6	0.4
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°	1472.3	38.9
0°-40°	2248.5	59.4
0°-60°	3385.4	89.5
0°-90°	3782.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3782.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1985	1985	1985	1985	1985	
5°	2029	2012	1977	1948	1940	194
15°	2068	2004	1874	1795	1778	581
25°	1854	1750	1583	1526	1524	848
35°	1356	1297	1196	1198	1206	847
45°	880	856	821	850	870	685
55°	562	535	515	533	538	506
65°	328	301	274	256	256	325
75°	145	121	84	66	69	156
85°	20	12	5	5	5	27
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°	1984.6	1984.6	1984.6	1984.6	1984.6	1984.6	1984.6	1984.6	1984.6
2.5°	2001.8	1996.9	1992.1	1984.6	1974.8	1967.3	1959.9	1955.1	1955.1
5°	2029.0	2021.6	2011.7	1994.5	1977.2	1962.4	1947.7	1940.2	1940.2
7.5°	2048.7	2038.8	2019.2	1994.5	1964.9	1942.7	1920.5	1910.7	1905.7
10°	2051.2	2041.3	2014.2	1977.2	1937.8	1903.3	1878.7	1863.8	1861.3
12.5°	2056.1	2043.8	2009.3	1957.4	1905.7	1863.8	1836.7	1821.9	1816.9
15°	2068.5	2051.2	2004.3	1937.8	1873.7	1824.4	1794.8	1782.4	1777.5
17.5°	2056.1	2031.5	1974.8	1895.9	1824.4	1770.2	1740.5	1728.3	1728.3
20°	2006.8	1982.2	1915.6	1829.3	1752.9	1701.1	1671.5	1664.1	1659.1
22.5°	1937.8	1910.7	1839.2	1747.9	1671.5	1624.6	1605.0	1595.1	1592.6
25°	1853.9	1826.8	1750.4	1656.8	1582.8	1543.4	1526.1	1526.1	1523.6
27.5°	1760.3	1725.8	1646.9	1565.5	1494.0	1464.5	1457.0	1457.0	1459.5
30°	1629.6	1605.0	1538.4	1459.5	1393.0	1373.2	1373.2	1378.1	1378.1
32.5°	1489.1	1471.9	1412.6	1343.6	1291.8	1279.6	1284.5	1294.3	1296.8
35°	1356.0	1336.2	1296.8	1235.2	1195.7	1190.8	1198.2	1205.6	1205.6
37.5°	1225.3	1205.6	1178.4	1129.2	1099.6	1102.0	1111.9	1121.8	1129.2
40°	1097.1	1082.3	1062.5	1023.2	1000.9	1010.8	1023.2	1033.0	1042.8
42.5°	983.7	968.9	954.1	924.5	909.8	922.0	936.9	946.7	956.5
45°	880.1	870.3	855.5	830.9	821.0	833.3	850.5	860.4	870.3
47.5°	791.4	786.5	766.7	744.5	739.6	752.0	766.7	779.0	786.5
50°	710.0	702.6	685.4	663.2	658.2	678.0	687.9	695.2	702.6
52.5°	631.1	623.7	604.0	584.3	584.3	599.1	606.5	609.0	616.3
55°	562.1	554.7	535.0	520.2	515.2	527.6	532.6	532.6	537.5
57.5°	498.0	490.6	470.8	453.6	451.2	458.6	458.6	458.6	461.1
60°	436.3	428.9	409.2	394.4	389.6	391.9	389.6	387.1	389.6
62.5°	379.7	372.3	352.6	335.3	330.3	330.3	322.9	320.5	322.9
65°	327.9	315.6	300.8	283.5	273.7	266.3	256.4	256.4	256.4
67.5°	276.2	266.3	249.0	231.8	219.4	207.0	192.3	197.3	199.7
70°	229.3	221.9	202.2	184.9	167.7	152.9	140.5	145.4	147.9
72.5°	187.4	177.5	160.3	140.5	125.8	106.0	98.6	103.5	103.5
75°	145.4	135.6	120.8	101.0	83.9	66.5	66.5	69.0	69.0
77.5°	108.5	98.6	83.9	66.5	51.8	39.5	41.9	41.9	41.9
80°	74.0	66.5	54.3	39.5	27.1	22.1	22.1	22.1	24.6
82.5°	41.9	37.0	29.6	19.7	12.4	12.4	12.4	12.4	12.4
85°	19.7	14.8	12.4	7.4	4.9	4.9	4.9	4.9	4.9
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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)