

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: P580826

Luminaire Tested: **HC445D010-HM44560940-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580826  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC445D010-HM44560940-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3997.1 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

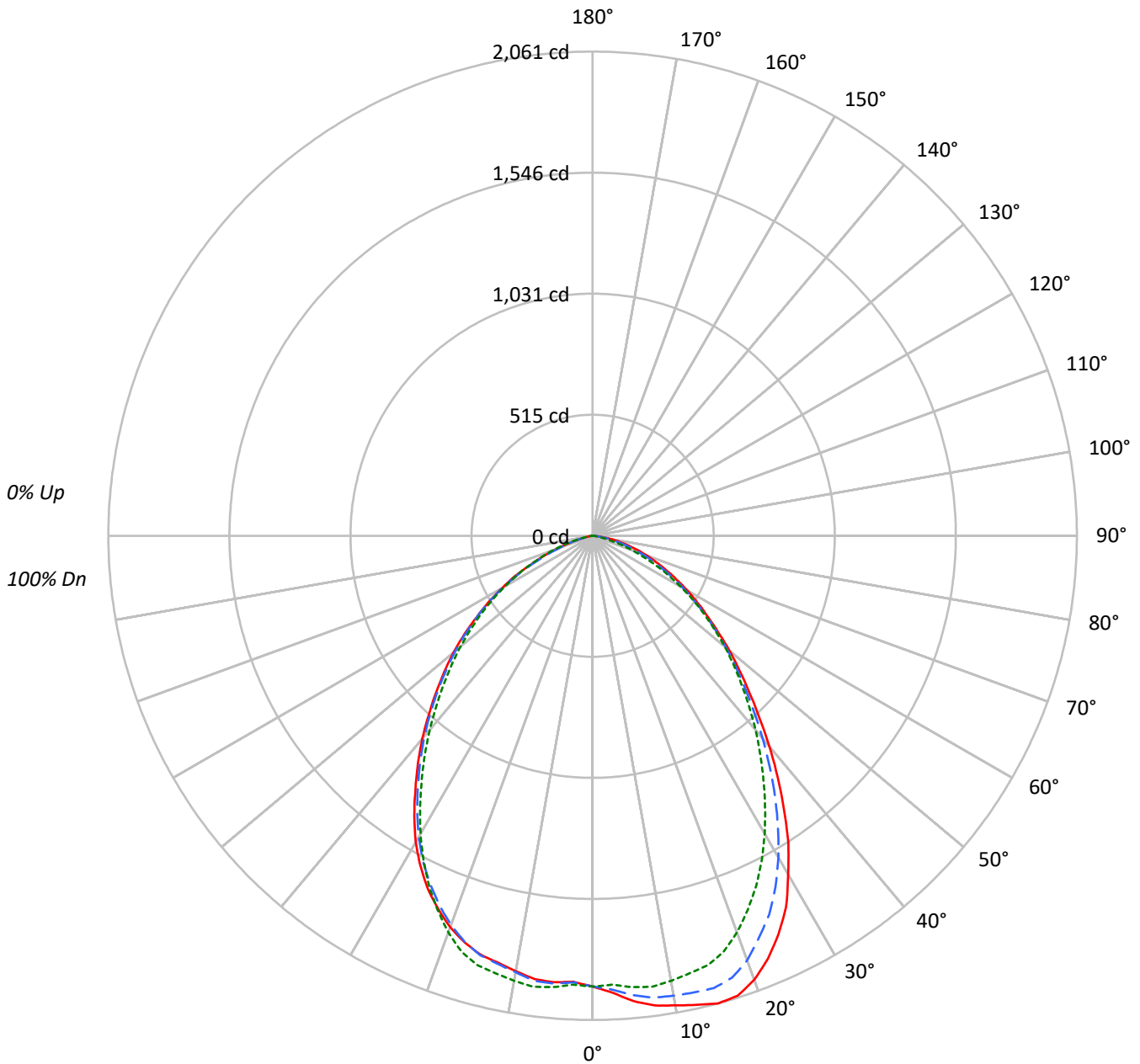
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88	88	88	88
2	102	95	90	85	100	94	88	84	90	86	82	87	83	80	84	81	78	76	76	76	76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69	67	67	67	67
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58	58	58	58
5	81	70	61	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52	52	52	52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46	46	46	46
7	70	58	50	44	69	57	49	44	56	49	44	54	48	44	53	47	43	41	41	41	41
8	66	53	45	40	64	53	45	40	51	44	40	50	44	39	49	43	39	37	37	37	37
9	62	49	42	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34	34	34	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31	31	31	31

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

	0°	90°	180°
0°	236602	236602	236602
5°	246173	238781	236205
10°	254204	240890	235693
15°	263145	241641	235677
20°	264020	235785	232727
25°	254705	224015	225785
30°	237027	208585	214481
35°	213503	190857	197889
40°	188228	173640	181562
45°	164581	156435	164128
50°	145742	140772	148236
55°	128211	124318	129329
60°	114440	106151	109358
65°	100634	86245	84727
70°	87888	63581	57955
75°	72868	38269	30929
80°	55263	14775	9234
85°	25757	3680	3680



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.0	4.6
10°-20°	539.9	13.5
20°-30°	781.9	19.6
30°-40°	824.9	20.6
40°-50°	713.9	17.9
50°-60°	528.9	13.2
60°-70°	304.9	7.6
70°-80°	106.5	2.7
80°-90°	11.2	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°	1506.8	37.7
0°-40°	2331.8	58.3
0°-60°	3574.6	89.4
0°-90°	3997.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3997.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1918	1918	1918	1918	1918	
5°	1988	1962	1928	1913	1908	191
15°	2061	1993	1892	1848	1846	580
25°	1872	1778	1646	1636	1659	857
35°	1418	1353	1268	1296	1314	886
45°	944	918	897	931	941	732
55°	596	583	578	599	601	538
65°	345	324	296	280	290	344
75°	153	130	80	65	65	165
85°	18	10	3	3	3	28
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°	1918.2	1918.2	1918.2	1918.2	1918.2	1918.2	1918.2	1918.2	1918.2
2.5°	1946.7	1941.5	1933.7	1923.3	1913.0	1905.2	1902.6	1900.0	1900.0
5°	1988.2	1977.7	1962.3	1941.5	1928.5	1920.8	1913.0	1907.7	1907.7
7.5°	2016.7	2006.2	1982.9	1954.4	1936.2	1920.8	1910.3	1902.6	1902.6
10°	2029.6	2016.7	1988.2	1951.8	1923.3	1902.6	1887.1	1881.8	1881.8
12.5°	2045.2	2029.6	1990.8	1944.1	1907.7	1881.8	1866.3	1861.2	1861.2
15°	2060.7	2042.6	1993.3	1938.9	1892.3	1861.2	1848.2	1845.6	1845.6
17.5°	2052.9	2029.6	1972.6	1907.7	1855.9	1824.8	1811.9	1811.9	1814.5
20°	2011.4	1988.2	1923.3	1850.7	1796.3	1773.0	1762.7	1767.8	1773.0
22.5°	1949.3	1920.8	1850.7	1780.7	1723.7	1703.0	1703.0	1710.8	1718.6
25°	1871.5	1845.6	1778.1	1700.4	1646.0	1630.4	1635.7	1648.6	1659.0
27.5°	1783.3	1754.8	1684.9	1612.3	1557.9	1550.0	1563.1	1581.1	1586.4
30°	1664.2	1640.8	1581.1	1511.2	1464.5	1462.0	1480.0	1493.0	1505.9
32.5°	1550.0	1524.1	1467.1	1399.7	1366.0	1368.6	1389.4	1404.9	1412.7
35°	1417.9	1394.5	1353.0	1298.6	1267.5	1272.7	1296.0	1311.6	1314.2
37.5°	1293.4	1277.8	1236.4	1194.9	1171.6	1182.0	1202.8	1220.8	1220.8
40°	1169.0	1156.1	1124.9	1091.3	1078.4	1091.3	1112.0	1127.6	1127.6
42.5°	1049.7	1042.0	1016.1	992.7	985.0	1003.2	1021.2	1034.3	1031.7
45°	943.5	935.7	917.6	899.5	896.8	915.0	930.6	938.3	940.9
47.5°	847.6	842.4	826.9	813.9	813.9	832.1	845.0	852.8	855.4
50°	759.5	754.3	741.3	731.0	733.6	751.7	762.1	769.8	772.5
52.5°	671.4	668.7	658.4	645.4	653.2	666.1	679.1	684.3	686.9
55°	596.2	596.2	583.2	572.9	578.1	591.0	598.8	601.4	601.4
57.5°	528.8	526.2	510.6	500.3	502.9	515.8	521.1	523.6	523.6
60°	463.9	461.4	445.9	430.3	430.3	438.0	440.6	443.3	443.3
62.5°	401.8	399.2	381.0	368.1	362.9	360.3	360.3	365.4	375.9
65°	344.8	342.2	324.0	303.3	295.5	287.7	279.9	285.1	290.3
67.5°	293.0	287.7	269.6	251.4	233.3	220.4	207.3	215.1	225.5
70°	243.7	238.4	217.8	197.0	176.3	155.5	145.2	155.5	160.7
72.5°	197.0	191.9	171.1	150.3	124.4	103.7	101.1	103.7	106.3
75°	152.9	150.3	129.6	106.3	80.3	64.9	64.9	64.9	64.9
77.5°	114.1	108.8	88.1	67.4	46.7	36.2	33.7	33.7	33.7
80°	77.8	72.6	54.4	38.9	20.8	15.6	15.6	13.0	13.0
82.5°	44.1	41.5	28.5	15.6	7.7	5.2	5.2	5.2	5.2
85°	18.2	15.6	10.3	5.2	2.6	2.6	2.6	2.6	2.6
87.5°	2.6	2.6	2.6	0.0	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)