

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: P581226

Luminaire Tested: **HC455D010-HM44560930-41WWWB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581226  
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: HC455D010-HM44560930-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4199.8 lumens  
Efficiency: N/A  
Efficacy: 80.8 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

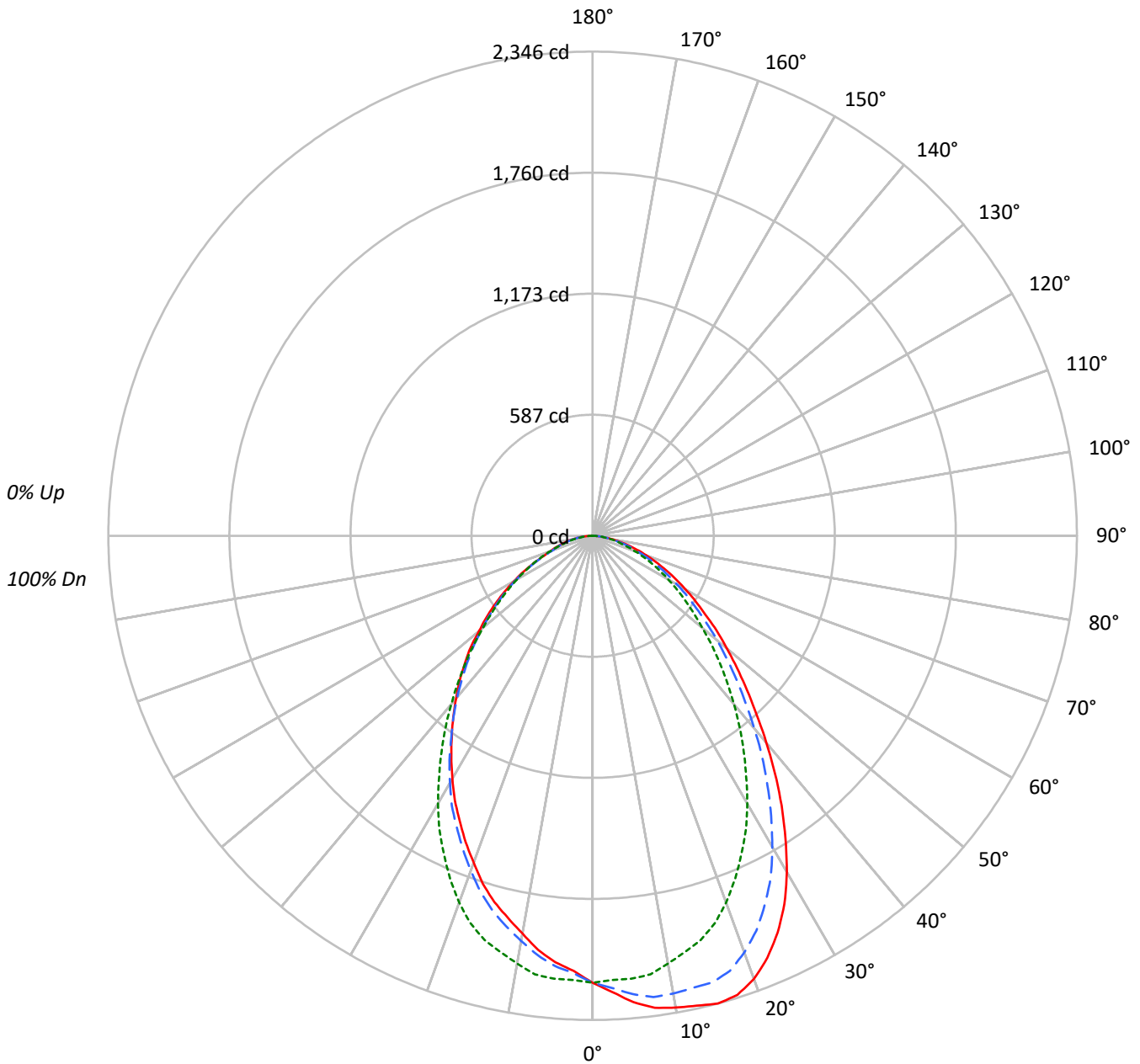
Input Watts (W): 52  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					20					
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°	267117	267117	267117
5°	280878	266763	256771
10°	290727	263573	245111
15°	299615	258790	234656
20°	299946	248124	221137
25°	288675	231936	207330
30°	268048	213413	193601
35°	240276	192137	179157
40°	210835	171434	165621
45°	184275	151778	152755
50°	162705	132827	137625
55°	143479	117759	123738
60°	128255	104252	108347
65°	113563	91673	91673
70°	99248	78186	78186
75°	84782	66243	74202
80°	67125	59241	67125
85°	43306	51090	62836



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	205.2	4.9
10°-20°	577.8	13.8
20°-30°	809.5	19.3
30°-40°	834.0	19.9
40°-50°	710.0	16.9
50°-60°	526.1	12.5
60°-70°	330.2	7.9
70°-80°	164.0	3.9
80°-90°	43.1	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°	1592.5	37.9
0°-40°	2426.4	57.8
0°-60°	3662.6	87.2
0°-90°	4199.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4199.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2166	2166	2166	2166	2166	
5°	2268	2230	2154	2093	2074	218
15°	2346	2241	2027	1879	1838	660
25°	2121	1974	1704	1557	1523	970
35°	1596	1476	1276	1193	1190	995
45°	1056	984	870	853	876	820
55°	667	614	548	559	575	603
65°	389	350	314	309	314	388
75°	178	158	139	150	156	190
85°	31	31	36	42	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°	2165.6	2165.6	2165.6	2165.6	2165.6	2165.6	2165.6	2165.6	2165.6
2.5°	2212.9	2204.4	2193.4	2174.0	2154.5	2137.7	2121.1	2112.8	2109.9
5°	2268.5	2251.8	2229.5	2193.4	2154.5	2121.1	2093.3	2079.5	2073.8
7.5°	2307.4	2290.7	2254.5	2198.9	2143.4	2093.3	2048.8	2029.4	2023.8
10°	2321.2	2301.8	2251.8	2176.6	2104.4	2043.2	1993.2	1968.2	1957.0
12.5°	2332.4	2307.4	2243.4	2154.5	2065.5	1990.5	1937.6	1904.3	1896.0
15°	2346.3	2318.5	2240.7	2132.2	2026.6	1937.6	1879.2	1848.7	1837.6
17.5°	2332.4	2301.8	2210.1	2087.8	1968.2	1870.9	1807.0	1779.2	1768.0
20°	2285.1	2251.8	2148.9	2018.2	1890.3	1790.3	1726.3	1698.5	1684.7
22.5°	2212.9	2176.6	2071.0	1932.1	1801.4	1704.2	1643.0	1615.2	1606.8
25°	2121.1	2085.0	1973.8	1832.0	1704.2	1609.5	1556.8	1531.8	1523.4
27.5°	2012.6	1976.5	1868.2	1729.1	1606.8	1517.9	1476.1	1451.1	1445.6
30°	1882.0	1845.9	1740.3	1612.4	1498.4	1415.0	1381.6	1362.1	1359.3
32.5°	1737.4	1706.8	1609.5	1492.9	1384.4	1314.9	1289.9	1276.0	1273.2
35°	1595.7	1562.3	1476.1	1370.5	1276.0	1214.9	1192.6	1189.8	1189.8
37.5°	1451.1	1417.7	1348.3	1251.0	1170.3	1114.8	1106.4	1109.2	1109.2
40°	1309.4	1278.8	1217.6	1137.0	1064.7	1023.0	1020.3	1025.8	1028.6
42.5°	1176.0	1150.9	1095.3	1025.8	964.7	931.3	934.1	945.2	953.6
45°	1056.4	1034.1	984.2	923.0	870.1	845.1	853.4	867.4	875.7
47.5°	947.9	928.5	881.2	825.6	781.2	764.4	775.6	792.3	803.4
50°	847.9	831.2	786.7	728.3	692.2	681.1	695.0	711.7	717.2
52.5°	758.9	742.3	695.0	645.0	617.2	611.6	625.5	639.3	647.8
55°	667.2	653.3	614.4	569.9	547.6	544.8	558.8	569.9	575.4
57.5°	592.1	578.2	542.1	503.2	483.8	480.9	494.8	503.2	505.9
60°	519.9	505.9	472.6	436.5	422.6	422.6	430.9	436.5	439.2
62.5°	453.2	439.2	408.6	378.1	367.0	367.0	367.0	369.8	378.1
65°	389.1	378.1	350.3	322.4	314.1	308.6	308.6	308.6	314.1
67.5°	330.9	319.7	297.4	272.5	264.2	255.7	253.0	258.5	258.5
70°	275.2	266.8	244.7	225.2	216.8	208.5	205.8	216.8	216.8
72.5°	225.2	216.8	203.0	183.5	175.2	172.4	177.9	183.5	186.3
75°	177.9	169.5	158.5	147.4	139.0	141.8	150.1	152.9	155.7
77.5°	133.4	130.6	119.6	111.2	111.2	114.0	119.6	125.1	127.9
80°	94.5	91.7	86.2	80.7	83.4	89.0	91.7	97.3	94.5
82.5°	58.4	58.4	55.6	55.6	58.4	63.9	66.7	69.5	72.2
85°	30.6	30.6	30.6	33.4	36.1	38.9	41.7	44.4	44.4
87.5°	8.3	11.1	11.1	14.0	16.7	16.7	19.5	19.5	19.5
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)