

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: P580610

Luminaire Tested: **HC440D010-HM43040840-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580610  
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: HC440D010-HM43040840-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4398.1 lumens  
Efficiency: N/A  
Efficacy: 107.3 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

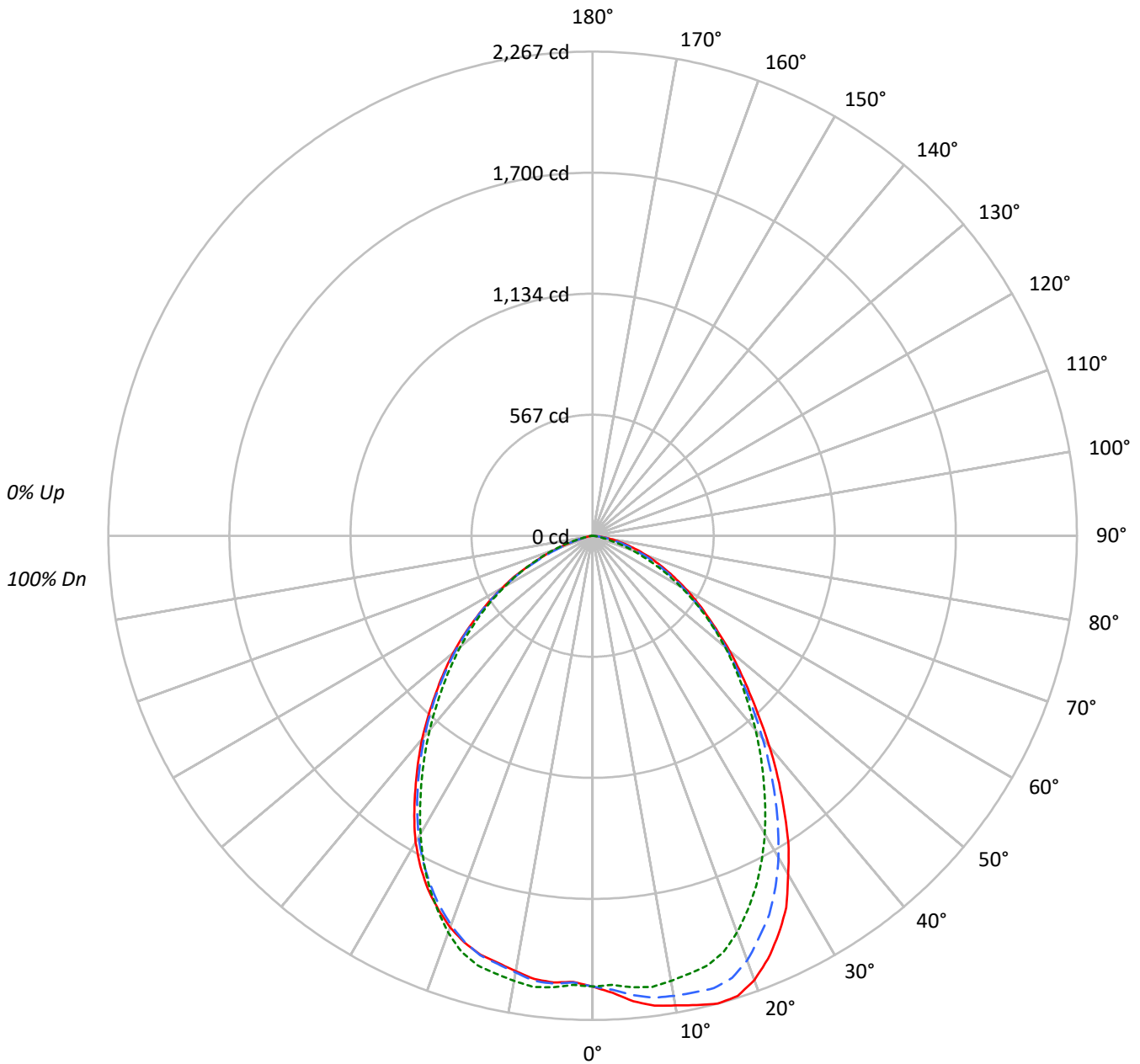
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	90°	180°
0°	260321	260321	260321
5°	270849	262727	259916
10°	279692	265051	259339
15°	289540	265865	259314
20°	290508	259439	256078
25°	280251	246485	248418
30°	260784	229507	236016
35°	234916	209995	217735
40°	207115	191046	199757
45°	181101	172134	180612
50°	160364	154876	163089
55°	141071	136791	142296
60°	125936	116784	120311
65°	110703	94884	93249
70°	96687	69928	63761
75°	80207	42129	33980
80°	60732	16266	10087
85°	28305	3963	3963



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.6	4.6
10°-20°	594.1	13.5
20°-30°	860.4	19.6
30°-40°	907.7	20.6
40°-50°	785.6	17.9
50°-60°	581.9	13.2
60°-70°	335.5	7.6
70°-80°	117.2	2.7
80°-90°	12.3	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°	1658.0	37.7
0°-40°	2565.7	58.3
0°-60°	3933.2	89.4
0°-90°	4398.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4398.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2110	2110	2110	2110	2110	
5°	2188	2159	2122	2105	2099	210
15°	2267	2193	2082	2034	2031	638
25°	2059	1957	1811	1800	1825	942
35°	1560	1489	1395	1426	1446	974
45°	1038	1010	987	1024	1035	806
55°	656	642	636	659	662	592
65°	379	356	325	308	320	379
75°	168	143	88	71	71	181
85°	20	11	3	3	3	31
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°	2110.5	2110.5	2110.5	2110.5	2110.5	2110.5	2110.5	2110.5	2110.5
2.5°	2141.9	2136.2	2127.7	2116.2	2104.9	2096.3	2093.5	2090.6	2090.6
5°	2187.5	2176.2	2159.0	2136.2	2121.9	2113.4	2104.9	2099.2	2099.2
7.5°	2218.9	2207.5	2181.9	2150.5	2130.6	2113.4	2102.0	2093.5	2093.5
10°	2233.1	2218.9	2187.5	2147.6	2116.2	2093.5	2076.3	2070.6	2070.6
12.5°	2250.3	2233.1	2190.4	2139.1	2099.2	2070.6	2053.6	2047.8	2047.8
15°	2267.4	2247.5	2193.2	2133.4	2082.0	2047.8	2033.6	2030.7	2030.7
17.5°	2258.8	2233.1	2170.5	2099.2	2042.1	2007.9	1993.6	1993.6	1996.5
20°	2213.2	2187.5	2116.2	2036.4	1976.5	1950.9	1939.4	1945.2	1950.9
22.5°	2144.8	2113.4	2036.4	1959.4	1896.6	1873.9	1873.9	1882.4	1890.9
25°	2059.2	2030.7	1956.6	1870.9	1811.1	1793.9	1799.7	1813.9	1825.3
27.5°	1962.2	1930.9	1853.9	1774.0	1714.1	1705.6	1719.8	1739.8	1745.5
30°	1831.0	1805.4	1739.8	1662.8	1611.4	1608.6	1628.6	1642.8	1657.1
32.5°	1705.6	1677.0	1614.2	1540.1	1503.0	1506.0	1528.7	1545.9	1554.4
35°	1560.1	1534.4	1488.8	1428.9	1394.6	1400.4	1426.0	1443.2	1446.0
37.5°	1423.2	1406.1	1360.4	1314.8	1289.2	1300.6	1323.3	1343.3	1343.3
40°	1286.3	1272.0	1237.8	1200.7	1186.5	1200.7	1223.6	1240.6	1240.6
42.5°	1155.1	1146.6	1118.0	1092.3	1083.8	1103.7	1123.7	1138.0	1135.1
45°	1038.2	1029.6	1009.7	989.7	986.8	1006.8	1023.9	1032.4	1035.4
47.5°	932.7	927.0	909.8	895.6	895.6	915.5	929.8	938.4	941.2
50°	835.7	830.0	815.8	804.3	807.1	827.1	838.5	847.0	849.9
52.5°	738.7	735.8	724.4	710.2	718.8	733.0	747.3	753.0	755.8
55°	656.0	656.0	641.8	630.3	636.1	650.3	658.8	661.7	661.7
57.5°	581.8	579.0	561.8	550.4	553.3	567.6	573.3	576.1	576.1
60°	510.5	507.7	490.5	473.4	473.4	482.0	484.8	487.7	487.7
62.5°	442.1	439.2	419.3	405.0	399.3	396.5	396.5	402.1	413.5
65°	379.3	376.4	356.5	333.7	325.1	316.6	308.1	313.8	319.5
67.5°	322.3	316.6	296.6	276.7	256.7	242.5	228.1	236.8	248.1
70°	268.1	262.4	239.6	216.8	193.9	171.2	159.7	171.2	176.8
72.5°	216.8	211.1	188.2	165.5	136.9	114.1	111.2	114.1	116.9
75°	168.3	165.5	142.6	116.9	88.4	71.3	71.3	71.3	71.3
77.5°	125.4	119.8	97.0	74.2	51.3	39.9	37.1	37.1	37.1
80°	85.5	79.8	59.9	42.8	22.9	17.2	17.2	14.2	14.2
82.5°	48.5	45.6	31.4	17.2	8.5	5.7	5.7	5.7	5.7
85°	20.0	17.2	11.4	5.7	2.8	2.8	2.8	2.8	2.8
87.5°	2.8	2.8	2.8	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)