

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: P581223

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581223  
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: HC455D010-HM44560930-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4263.7 lumens  
Efficiency: N/A  
Efficacy: 82.0 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

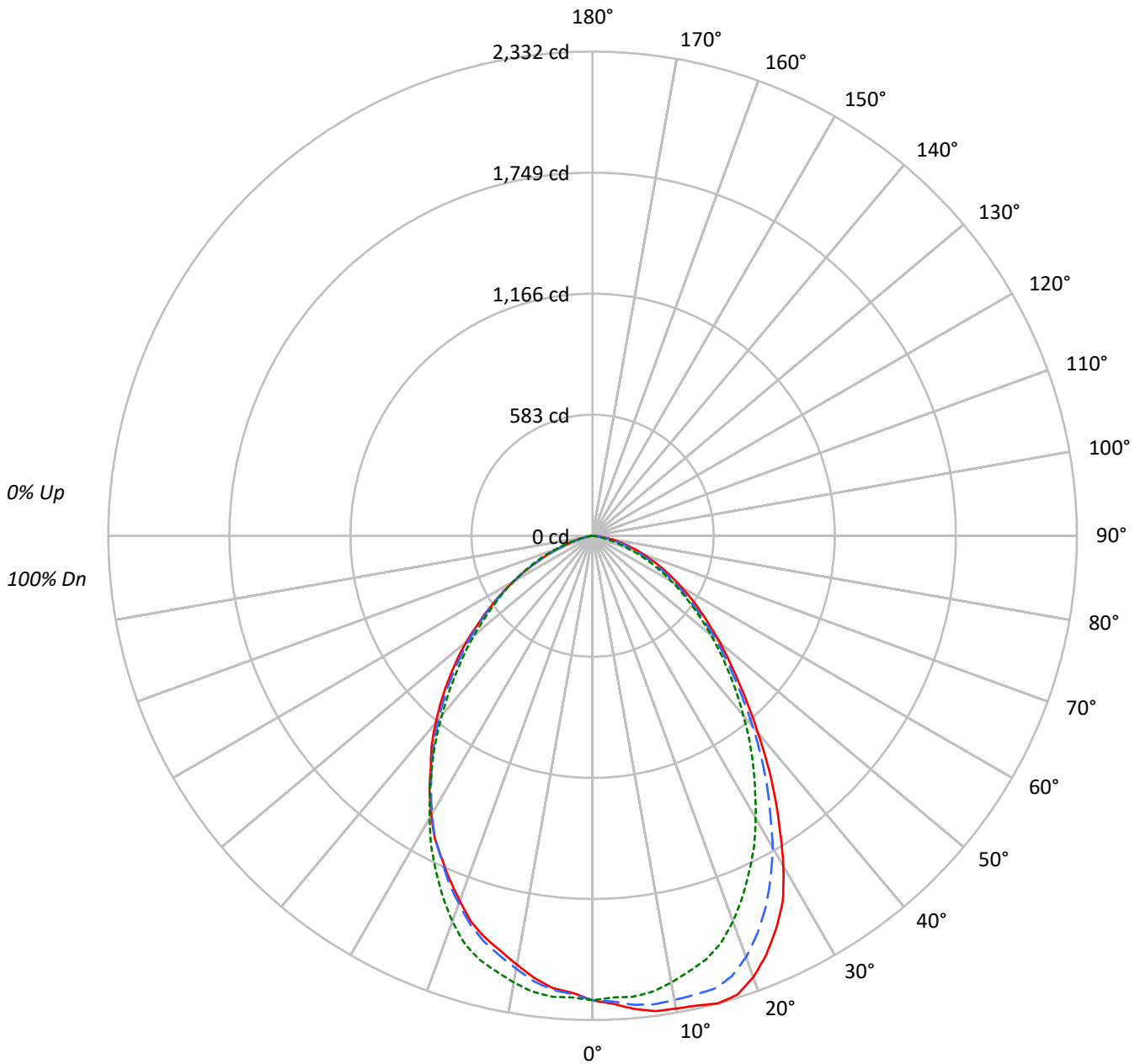
Input Watts (W): 52  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	104	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67																			
4	88	77	70	64	86	76	69	63	74	67	62	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47																			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	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	41	37	47	41	37	46	41	37	35																			
10	58	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°	275924	275924	275924
5°	283169	275938	270787
10°	289574	273568	262771
15°	297725	269696	255841
20°	296914	259334	245486
25°	284402	242797	233719
30°	261610	223611	221247
35°	230127	202948	204619
40°	199113	181675	189259
45°	173042	161407	171105
50°	153571	142364	151978
55°	136253	124878	130275
60°	121323	108322	108322
65°	107872	90039	84348
70°	93189	68161	60118
75°	78110	45036	37125
80°	59241	21736	19747
85°	31560	7784	7784



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	211.9	5.0
10°-20°	600.6	14.1
20°-30°	847.0	19.9
30°-40°	875.0	20.5
40°-50°	741.7	17.4
50°-60°	539.7	12.7
60°-70°	315.3	7.4
70°-80°	117.2	2.7
80°-90°	15.4	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°	1659.4	38.9
0°-40°	2534.4	59.4
0°-60°	3815.8	89.5
0°-90°	4263.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4263.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2237	2237	2237	2237	2237	
5°	2287	2268	2229	2195	2187	219
15°	2332	2259	2112	2023	2004	655
25°	2090	1973	1784	1720	1717	956
35°	1528	1462	1348	1351	1359	955
45°	992	964	925	959	981	772
55°	634	603	581	600	606	570
65°	370	339	308	289	289	367
75°	164	136	94	75	78	176
85°	22	14	6	6	6	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°	2237.0	2237.0	2237.0	2237.0	2237.0	2237.0	2237.0	2237.0	2237.0
2.5°	2256.4	2250.9	2245.3	2237.0	2225.8	2217.5	2209.2	2203.6	2203.6
5°	2287.0	2278.7	2267.5	2248.1	2228.6	2212.0	2195.3	2187.0	2187.0
7.5°	2309.2	2298.2	2275.9	2248.1	2214.8	2189.7	2164.7	2153.6	2148.1
10°	2312.0	2300.8	2270.4	2228.6	2184.2	2145.3	2117.5	2100.8	2098.0
12.5°	2317.6	2303.7	2264.7	2206.5	2148.1	2100.8	2070.2	2053.6	2048.1
15°	2331.5	2312.0	2259.2	2184.2	2112.0	2056.4	2023.0	2009.1	2003.5
17.5°	2317.6	2289.8	2225.8	2136.9	2056.4	1995.2	1961.9	1947.9	1947.9
20°	2262.0	2234.2	2159.2	2061.9	1975.7	1917.4	1884.0	1875.7	1870.2
22.5°	2184.2	2153.6	2073.0	1970.2	1884.0	1831.3	1809.0	1797.9	1795.2
25°	2089.7	2059.1	1973.0	1867.4	1784.0	1739.6	1720.1	1720.1	1717.3
27.5°	1984.0	1945.2	1856.2	1764.6	1684.0	1650.6	1642.3	1642.3	1645.1
30°	1836.8	1809.0	1734.0	1645.1	1570.0	1547.8	1547.8	1553.4	1553.4
32.5°	1678.4	1658.9	1592.3	1514.5	1456.1	1442.2	1447.8	1458.9	1461.7
35°	1528.3	1506.1	1461.7	1392.2	1347.8	1342.2	1350.6	1358.9	1358.9
37.5°	1381.0	1358.9	1328.3	1272.7	1239.4	1242.1	1253.2	1264.4	1272.7
40°	1236.6	1220.0	1197.7	1153.2	1128.3	1139.3	1153.2	1164.4	1175.4
42.5°	1108.8	1092.0	1075.4	1042.1	1025.4	1039.3	1055.9	1067.1	1078.2
45°	992.0	980.9	964.2	936.4	925.3	939.3	958.7	969.9	980.9
47.5°	892.0	886.5	864.2	839.2	833.6	847.6	864.2	878.1	886.5
50°	800.3	792.0	772.5	747.6	741.9	764.2	775.4	783.7	792.0
52.5°	711.3	703.0	680.8	658.6	658.6	675.2	683.6	686.4	694.7
55°	633.6	625.3	603.0	586.4	580.7	594.7	600.2	600.2	605.8
57.5°	561.4	552.9	530.8	511.3	508.5	516.8	516.8	516.8	519.6
60°	491.8	483.5	461.2	444.6	439.1	441.8	439.1	436.3	439.1
62.5°	428.0	419.6	397.3	377.9	372.4	372.4	364.0	361.2	364.0
65°	369.6	355.7	339.1	319.6	308.5	300.2	289.0	289.0	289.0
67.5°	311.3	300.2	280.7	261.2	247.3	233.4	216.8	222.3	225.1
70°	258.4	250.1	227.8	208.5	189.0	172.2	158.4	163.9	166.7
72.5°	211.2	200.0	180.7	158.4	141.8	119.5	111.2	116.7	116.7
75°	163.9	152.9	136.1	114.0	94.5	75.0	75.0	77.9	77.9
77.5°	122.3	111.2	94.5	75.0	58.4	44.4	47.2	47.2	47.2
80°	83.4	75.0	61.1	44.4	30.6	25.0	25.0	25.0	27.8
82.5°	47.2	41.7	33.3	22.3	14.0	14.0	14.0	14.0	14.0
85°	22.3	16.7	14.0	8.3	5.5	5.5	5.5	5.5	5.5
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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)