

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: P581315

Luminaire Tested: **HC460D010-HM44560835-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581315  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC460D010-HM44560835-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5205.6 lumens  
Efficiency: N/A  
Efficacy: 94.6 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

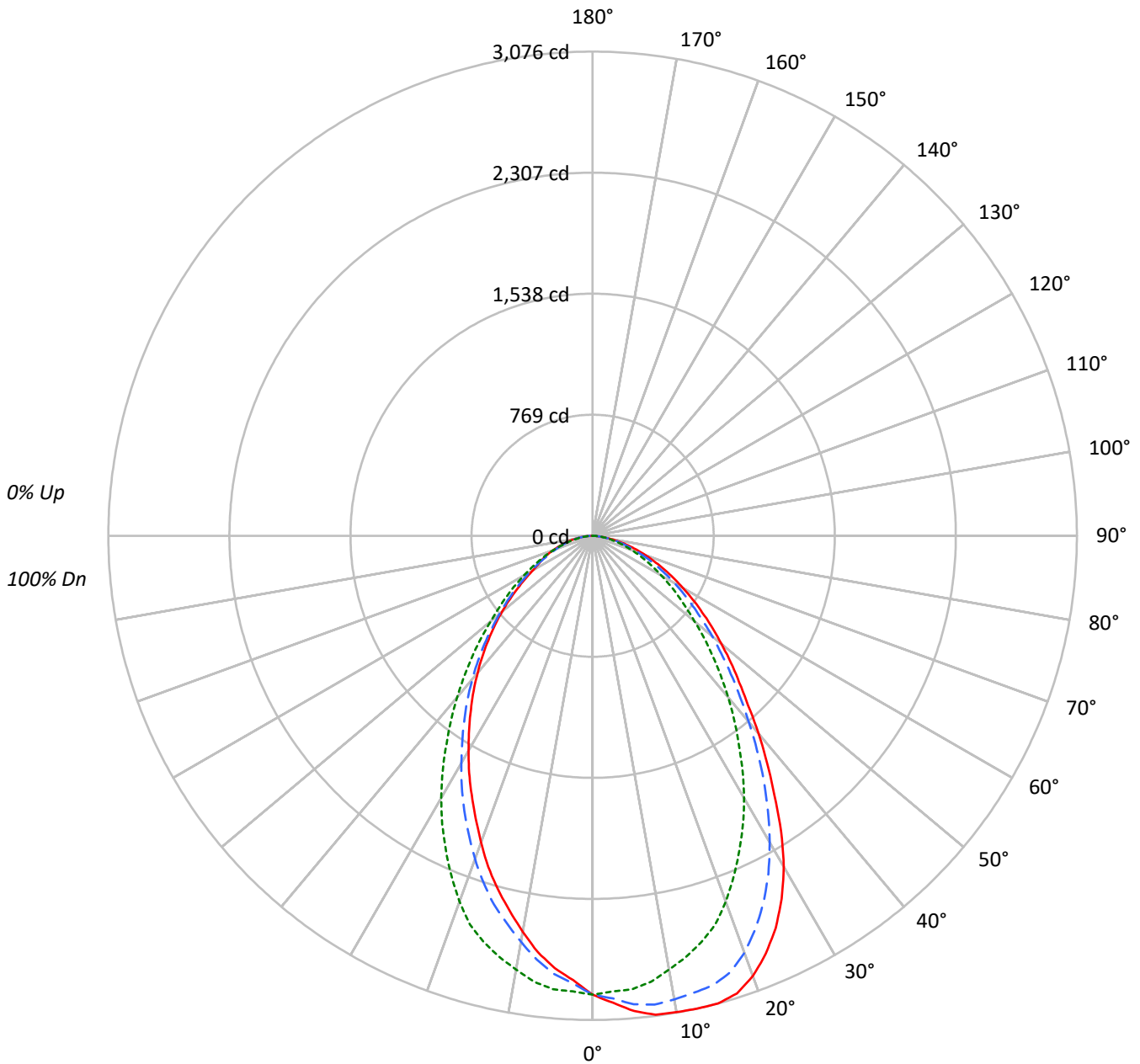
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76																			
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66																			
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47																			
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	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	42	37	47	41	37	46	41	37	35																			
10	59	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°	359553	359553	359553
5°	375363	357954	341400
10°	384863	350483	319997
15°	392821	341129	296908
20°	390727	324558	271882
25°	374321	300107	247356
30°	345813	274016	224195
35°	303112	243739	202933
40°	263938	215359	182770
45°	229716	187834	163308
50°	204653	161880	144111
55°	182897	142339	124641
60°	163285	124357	107434
65°	145113	109097	102093
70°	127378	94018	95245
75°	107896	80112	88261
80°	82823	68191	80337
85°	48542	53354	68073



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.2	5.2
10°-20°	753.7	14.5
20°-30°	1029.7	19.8
30°-40°	1034.0	19.9
40°-50°	855.4	16.4
50°-60°	619.9	11.9
60°-70°	392.6	7.5
70°-80°	198.5	3.8
80°-90°	48.6	0.9
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°	2056.6	39.5
0°-40°	3090.6	59.4
0°-60°	4565.9	87.7
0°-90°	5205.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5205.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2915	2915	2915	2915	2915	
5°	3032	2987	2891	2795	2757	291
15°	3076	2956	2671	2425	2325	865
25°	2750	2569	2205	1927	1818	1257
35°	2013	1893	1619	1420	1348	1262
45°	1317	1242	1077	970	936	1024
55°	850	775	662	604	580	765
65°	497	442	374	336	350	495
75°	226	196	168	175	185	242
85°	34	34	38	45	48	48
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°	2915.0	2915.0	2915.0	2915.0	2915.0	2915.0	2915.0	2915.0	2915.0
2.5°	2969.8	2959.5	2942.4	2921.9	2897.8	2870.4	2846.4	2832.6	2825.9
5°	3031.6	3017.9	2987.1	2942.4	2891.0	2839.5	2795.0	2767.5	2757.3
7.5°	3069.3	3048.8	3004.2	2935.5	2856.7	2781.2	2716.1	2678.3	2668.1
10°	3072.8	3048.8	2990.4	2897.8	2798.3	2699.0	2620.0	2565.2	2554.9
12.5°	3076.2	3045.3	2973.3	2863.5	2740.1	2616.6	2520.6	2455.4	2438.3
15°	3076.2	3045.3	2956.1	2825.9	2671.4	2530.9	2424.6	2349.2	2325.1
17.5°	3048.8	3014.5	2908.1	2757.3	2589.2	2431.4	2308.0	2229.2	2205.1
20°	2976.7	2939.0	2819.0	2654.3	2472.6	2308.0	2184.5	2102.3	2071.3
22.5°	2873.8	2829.2	2702.3	2524.0	2342.3	2174.2	2054.2	1968.5	1941.1
25°	2750.4	2705.8	2568.6	2393.7	2205.1	2047.3	1927.3	1848.5	1817.5
27.5°	2599.5	2551.4	2417.8	2242.8	2068.0	1910.2	1800.4	1728.4	1697.5
30°	2428.0	2376.6	2249.7	2081.6	1923.9	1773.0	1666.7	1608.4	1574.1
32.5°	2229.2	2184.5	2071.3	1920.4	1773.0	1628.9	1539.8	1488.4	1460.9
35°	2013.0	1989.0	1893.0	1762.7	1618.7	1498.7	1419.8	1371.8	1347.7
37.5°	1821.0	1797.0	1714.7	1604.9	1478.0	1368.4	1303.2	1262.0	1241.5
40°	1639.2	1618.7	1539.8	1447.2	1337.5	1241.5	1186.5	1155.7	1135.1
42.5°	1460.9	1450.6	1385.5	1299.8	1203.7	1121.5	1076.8	1052.9	1035.7
45°	1316.9	1303.2	1241.5	1159.1	1076.8	1008.2	970.5	953.4	936.2
47.5°	1190.0	1172.9	1107.7	1035.7	960.3	898.5	864.2	847.0	840.2
50°	1066.5	1049.4	991.1	919.1	843.6	799.1	771.7	754.5	751.0
52.5°	956.8	939.6	874.5	806.0	747.6	709.9	685.8	668.7	661.9
55°	850.5	829.9	775.0	709.9	661.9	627.6	603.6	586.4	579.6
57.5°	754.5	733.9	685.8	624.1	579.6	548.7	528.1	511.0	504.1
60°	661.9	644.8	600.1	541.9	504.1	476.7	456.2	442.4	435.5
62.5°	576.2	562.4	517.9	466.4	435.5	411.5	394.3	380.7	387.5
65°	497.2	483.6	442.4	397.8	373.8	349.8	336.0	336.0	349.8
67.5°	421.8	408.1	373.8	336.0	315.5	298.4	288.1	298.4	308.6
70°	353.2	339.5	308.6	277.8	260.7	246.9	246.9	257.2	264.1
72.5°	288.1	274.3	250.3	226.4	212.6	202.4	212.6	219.5	226.4
75°	226.4	216.0	195.5	178.3	168.1	164.6	175.0	181.7	185.2
77.5°	168.1	161.2	147.4	133.8	126.9	130.3	140.5	144.0	147.4
80°	116.6	113.1	102.9	96.0	96.0	99.5	106.3	109.8	113.1
82.5°	72.0	72.0	65.2	61.7	65.2	72.0	75.5	78.8	78.8
85°	34.3	37.7	34.3	34.3	37.7	44.6	44.6	48.1	48.1
87.5°	10.3	10.3	13.8	13.8	17.1	17.1	17.1	17.1	20.5
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)