

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: P592618

Luminaire Tested: **HC410D010-HM40525950-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592618  
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: HC410D010-HM40525950-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1031.4 lumens  
Efficiency: N/A  
Efficacy: 104.2 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

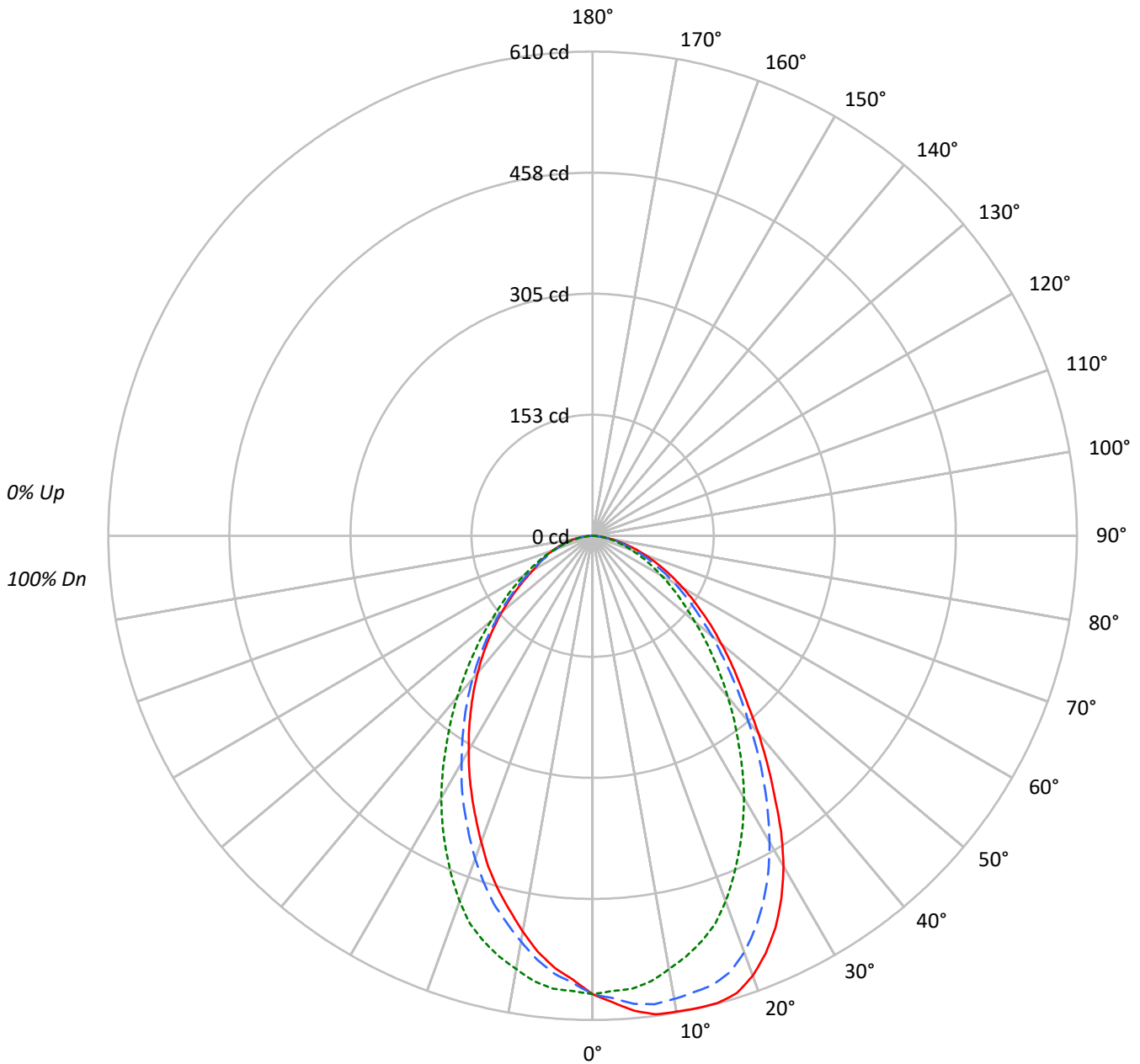
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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			100																
1	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87			87																
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76			76																
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66			66																
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58			58																
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52			52																
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	53	48	47			47																
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44	42			42																
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38																
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35																
10	59	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32																

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

	0°	90°	180°
0°	71232	71232	71232
5°	74364	70922	67653
10°	76251	69438	63401
15°	77831	67590	58830
20°	77418	64305	53870
25°	74173	59461	49022
30°	68508	54293	44423
35°	60065	48290	40219
40°	52298	42669	36213
45°	45511	37225	32358
50°	40547	32084	28573
55°	36235	28193	24687
60°	32341	24644	21289
65°	28777	21627	20226
70°	25245	18645	18861
75°	21350	15870	17442
80°	16408	13496	15911
85°	9624	10614	13586



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.1	5.2
10°-20°	149.3	14.5
20°-30°	204.0	19.8
30°-40°	204.9	19.9
40°-50°	169.5	16.4
50°-60°	122.8	11.9
60°-70°	77.8	7.5
70°-80°	39.3	3.8
80°-90°	9.6	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°	407.5	39.5
0°-40°	612.4	59.4
0°-60°	904.7	87.7
0°-90°	1031.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1031.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	578	578	578	578	578	
5°	601	592	573	554	546	58
15°	610	586	529	480	461	171
25°	545	509	437	382	360	249
35°	399	375	321	281	267	250
45°	261	246	213	192	186	203
55°	168	154	131	120	115	152
65°	99	88	74	67	69	98
75°	45	39	33	35	37	48
85°	7	7	8	9	10	9
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°	577.5	577.5	577.5	577.5	577.5	577.5	577.5	577.5	577.5
2.5°	588.5	586.4	583.0	578.9	574.1	568.8	564.0	561.3	559.9
5°	600.6	597.9	591.9	583.0	572.8	562.6	553.8	548.4	546.4
7.5°	608.1	604.1	595.2	581.6	566.0	551.0	538.2	530.6	528.6
10°	608.8	604.1	592.6	574.1	554.4	534.7	519.2	508.2	506.2
12.5°	609.5	603.4	589.1	567.4	542.9	518.5	499.5	486.5	483.1
15°	609.5	603.4	585.7	559.9	529.3	501.5	480.3	465.4	460.7
17.5°	604.1	597.2	576.2	546.4	513.0	481.7	457.2	441.7	436.9
20°	589.8	582.3	558.5	525.9	489.9	457.2	432.8	416.5	410.4
22.5°	569.5	560.6	535.4	500.2	464.1	430.8	407.1	390.0	384.6
25°	545.0	536.1	508.9	474.3	436.9	405.7	381.9	366.2	360.2
27.5°	515.1	505.5	479.0	444.4	409.7	378.5	356.8	342.4	336.4
30°	481.0	470.9	445.8	412.4	381.2	351.3	330.2	318.6	311.9
32.5°	441.7	432.8	410.4	380.5	351.3	322.7	305.1	294.9	289.5
35°	398.9	394.1	375.1	349.3	320.7	296.9	281.3	271.8	267.1
37.5°	360.9	356.1	339.7	318.0	292.8	271.1	258.2	250.0	245.9
40°	324.8	320.7	305.1	286.8	265.0	245.9	235.1	229.0	224.9
42.5°	289.5	287.5	274.5	257.5	238.5	222.1	213.4	208.6	205.2
45°	260.9	258.2	245.9	229.6	213.4	199.7	192.3	188.9	185.5
47.5°	235.8	232.4	219.5	205.2	190.3	178.0	171.3	167.9	166.5
50°	211.3	207.9	196.4	182.1	167.2	158.3	152.8	149.5	148.9
52.5°	189.6	186.2	173.3	159.7	148.2	140.7	135.9	132.5	131.1
55°	168.5	164.4	153.5	140.7	131.1	124.4	119.6	116.2	114.8
57.5°	149.5	145.4	135.9	123.7	114.8	108.7	104.7	101.3	99.9
60°	131.1	127.8	118.9	107.3	99.9	94.5	90.4	87.6	86.3
62.5°	114.1	111.4	102.6	92.4	86.3	81.6	78.2	75.4	76.8
65°	98.6	95.8	87.6	78.9	74.1	69.3	66.6	66.6	69.3
67.5°	83.5	80.9	74.1	66.6	62.5	59.1	57.1	59.1	61.1
70°	70.0	67.3	61.1	55.1	51.7	48.9	48.9	51.0	52.3
72.5°	57.1	54.4	49.6	44.8	42.1	40.1	42.1	43.5	44.8
75°	44.8	42.8	38.7	35.3	33.3	32.7	34.7	36.0	36.6
77.5°	33.3	32.0	29.2	26.5	25.1	25.8	27.9	28.6	29.2
80°	23.1	22.4	20.4	19.0	19.0	19.7	21.1	21.7	22.4
82.5°	14.2	14.2	12.9	12.2	12.9	14.2	14.9	15.6	15.6
85°	6.8	7.5	6.8	6.8	7.5	8.9	8.9	9.6	9.6
87.5°	2.0	2.0	2.7	2.7	3.4	3.4	3.4	3.4	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)