

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: P592619

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

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P592619  
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: HC410D010-HM40525950-41WWWB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1026.6 lumens  
Efficiency: N/A  
Efficacy: 103.7 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

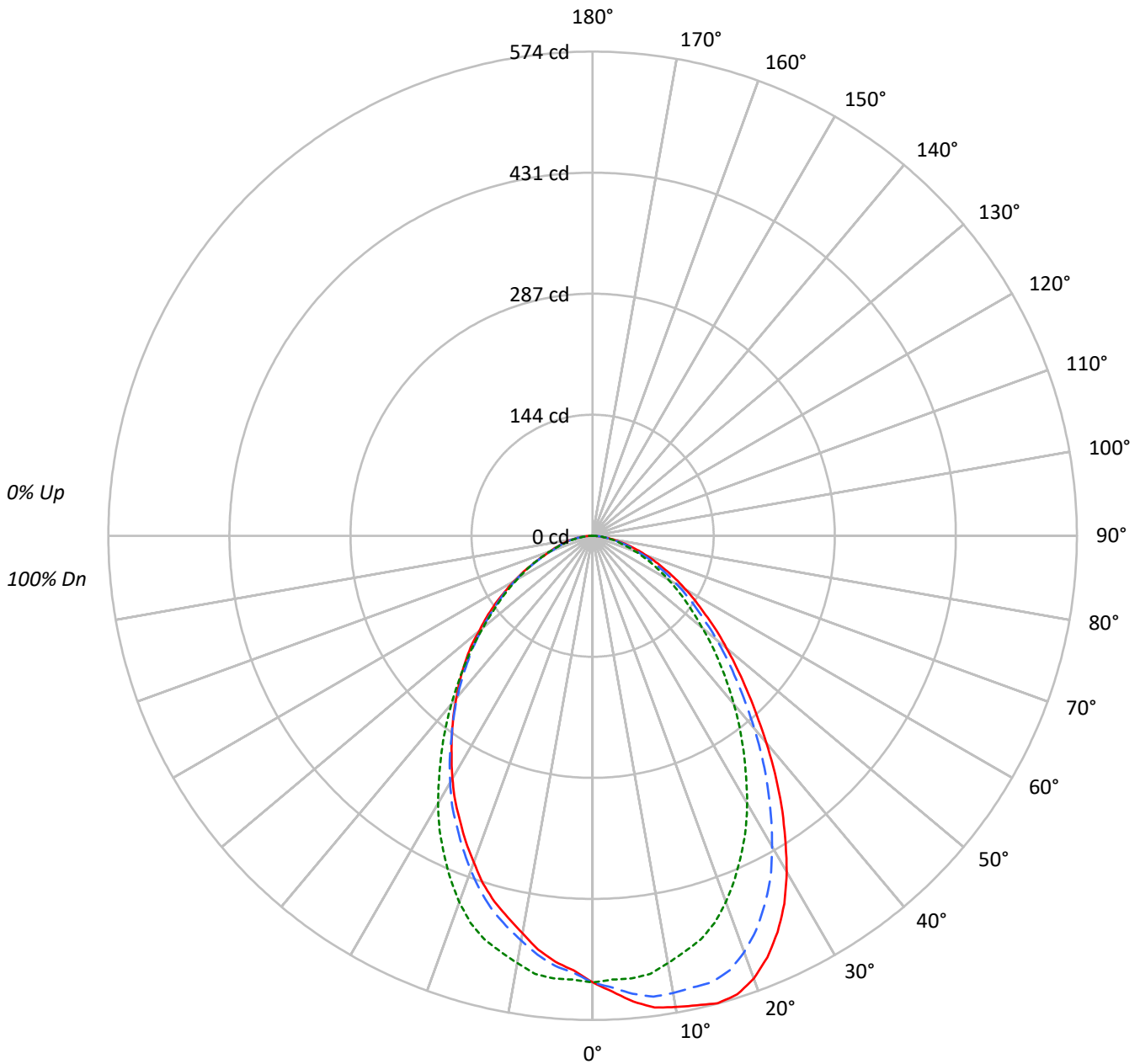
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31								

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

	0°	90°	180°
0°	65299	65299	65299
5°	68656	65214	62775
10°	71066	64428	59919
15°	73247	63261	57361
20°	73323	60656	54054
25°	70566	56698	50682
30°	65531	52171	47329
35°	58740	46965	43803
40°	51541	41913	40479
45°	45040	37103	37347
50°	39760	32468	33658
55°	35074	28773	30257
60°	31354	25483	26495
65°	27756	22415	22415
70°	24271	19114	19114
75°	20731	16203	18110
80°	16408	14491	16408
85°	10614	12596	15426



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.2	4.9
10°-20°	141.2	13.8
20°-30°	197.9	19.3
30°-40°	203.9	19.9
40°-50°	173.6	16.9
50°-60°	128.6	12.5
60°-70°	80.7	7.9
70°-80°	40.1	3.9
80°-90°	10.5	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°	389.3	37.9
0°-40°	593.2	57.8
0°-60°	895.3	87.2
0°-90°	1026.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1026.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	529	529	529	529	529	
5°	554	545	527	512	507	53
15°	574	548	495	459	449	161
25°	518	482	417	380	372	237
35°	390	361	312	292	291	243
45°	258	241	213	209	214	200
55°	163	150	134	137	141	147
65°	95	86	77	75	77	95
75°	44	39	34	37	38	47
85°	8	8	9	10	11	10
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°	529.4	529.4	529.4	529.4	529.4	529.4	529.4	529.4	529.4
2.5°	540.9	538.8	536.2	531.4	526.7	522.6	518.5	516.4	515.7
5°	554.5	550.5	545.0	536.2	526.7	518.5	511.8	508.3	507.0
7.5°	564.0	560.0	551.1	537.6	523.9	511.8	500.8	496.1	494.7
10°	567.4	562.6	550.5	532.1	514.4	499.5	487.3	481.1	478.4
12.5°	570.1	564.0	548.4	526.7	504.9	486.6	473.6	465.6	463.5
15°	573.6	566.7	547.7	521.2	495.4	473.6	459.4	451.9	449.2
17.5°	570.1	562.6	540.2	510.4	481.1	457.4	441.8	434.9	432.2
20°	558.6	550.5	525.3	493.3	462.1	437.7	422.0	415.3	411.8
22.5°	540.9	532.1	506.3	472.3	440.4	416.6	401.6	394.8	392.8
25°	518.5	509.7	482.5	447.8	416.6	393.5	380.5	374.4	372.4
27.5°	492.0	483.2	456.7	422.7	392.8	371.0	360.9	354.7	353.3
30°	460.1	451.2	425.4	394.2	366.3	346.0	337.8	333.0	332.3
32.5°	424.7	417.3	393.5	365.0	338.4	321.5	315.3	311.9	311.2
35°	390.1	381.9	360.9	335.0	311.9	297.0	291.6	290.9	290.9
37.5°	354.7	346.6	329.6	305.8	286.1	272.6	270.5	271.2	271.2
40°	320.1	312.6	297.7	277.9	260.3	250.1	249.4	250.8	251.4
42.5°	287.5	281.3	267.8	250.8	235.8	227.6	228.3	231.0	233.1
45°	258.2	252.7	240.6	225.7	212.7	206.5	208.6	212.0	214.1
47.5°	231.7	227.0	215.4	201.9	191.0	186.9	189.6	193.7	196.4
50°	207.2	203.2	192.3	178.1	169.2	166.5	169.9	174.0	175.4
52.5°	185.5	181.4	169.9	157.6	150.9	149.5	152.9	156.2	158.3
55°	163.1	159.7	150.2	139.3	133.8	133.1	136.6	139.3	140.7
57.5°	144.8	141.3	132.5	123.0	118.2	117.6	121.0	123.0	123.7
60°	127.1	123.7	115.5	106.7	103.3	103.3	105.4	106.7	107.4
62.5°	110.7	107.4	99.9	92.4	89.7	89.7	89.7	90.4	92.4
65°	95.1	92.4	85.6	78.9	76.8	75.4	75.4	75.4	76.8
67.5°	80.9	78.2	72.7	66.6	64.5	62.5	61.8	63.2	63.2
70°	67.3	65.2	59.7	55.1	53.0	51.0	50.3	53.0	53.0
72.5°	55.1	53.0	49.6	44.8	42.8	42.1	43.5	44.8	45.5
75°	43.5	41.4	38.7	36.0	34.0	34.7	36.6	37.3	38.0
77.5°	32.7	32.0	29.2	27.2	27.2	27.9	29.2	30.6	31.3
80°	23.1	22.4	21.1	19.7	20.4	21.7	22.4	23.8	23.1
82.5°	14.2	14.2	13.5	13.5	14.2	15.6	16.3	17.0	17.6
85°	7.5	7.5	7.5	8.2	8.9	9.6	10.2	10.9	10.9
87.5°	2.0	2.7	2.7	3.4	4.1	4.1	4.8	4.8	4.8
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)