

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: P579715

Luminaire Tested: **HC410D010-HM40525830-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P579715  
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: HC410D010-HM40525830-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1092.3 lumens  
Efficiency: N/A  
Efficacy: 110.3 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

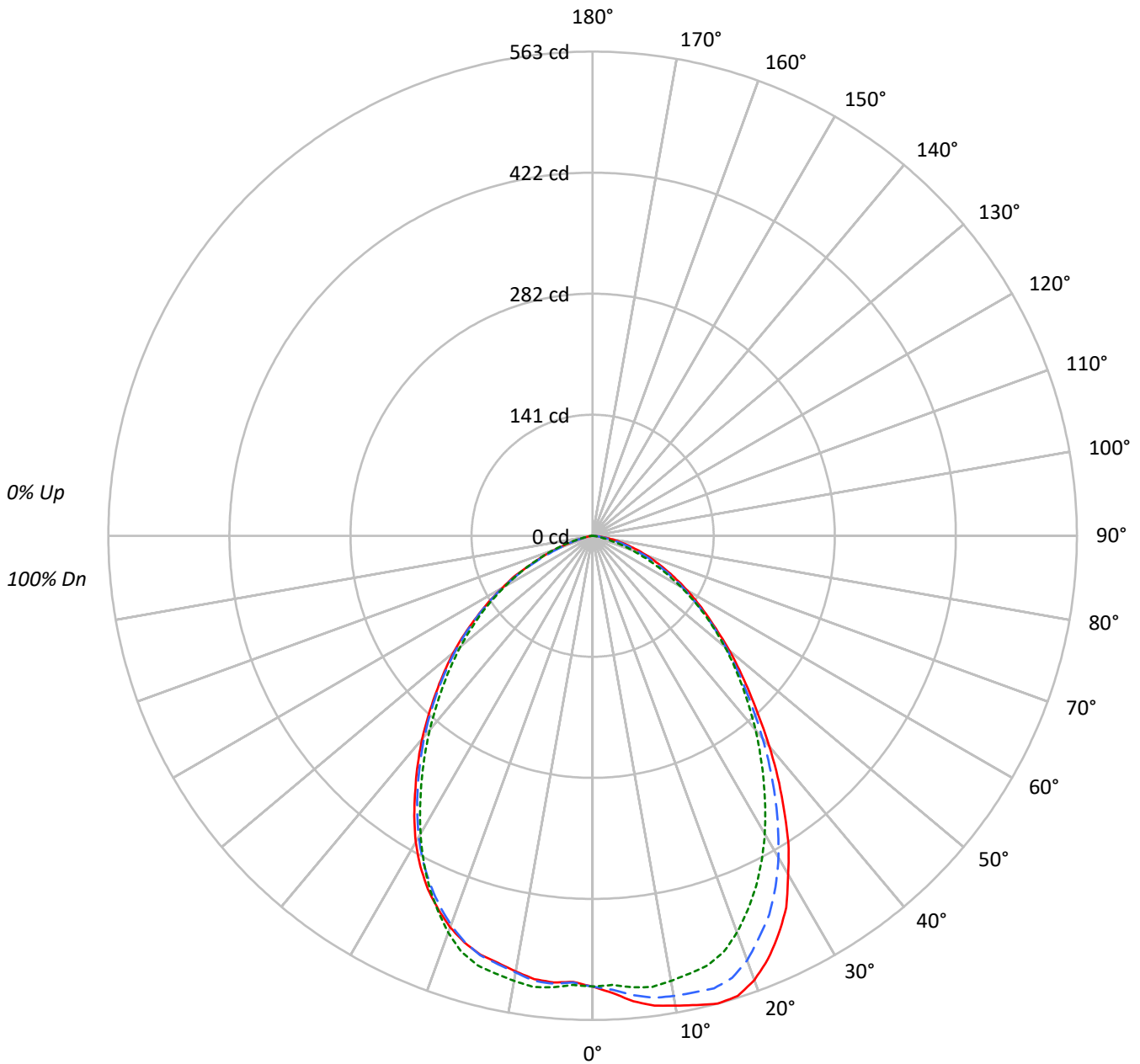
Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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				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	62	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°	64658	64658	64658
5°	67270	65251	64546
10°	69475	65818	64415
15°	71906	66032	64410
20°	72155	64423	63583
25°	69600	61203	61706
30°	64762	56999	58609
35°	58349	52160	54087
40°	51429	47435	49625
45°	44987	42755	44848
50°	39837	38455	40508
55°	35053	33977	35332
60°	31280	29011	29874
65°	27493	23582	23145
70°	24019	17347	15832
75°	19921	10485	8483
80°	15130	4049	2486
85°	7076	991	991



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.6	4.6
10°-20°	147.5	13.5
20°-30°	213.7	19.6
30°-40°	225.4	20.6
40°-50°	195.1	17.9
50°-60°	144.5	13.2
60°-70°	83.3	7.6
70°-80°	29.1	2.7
80°-90°	3.1	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°	411.8	37.7
0°-40°	637.2	58.3
0°-60°	976.8	89.4
0°-90°	1092.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1092.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	524	524	524	524	524	
5°	543	536	527	523	521	52
15°	563	545	517	505	504	158
25°	511	486	450	447	453	234
35°	388	370	346	354	359	242
45°	258	251	245	254	257	200
55°	163	159	158	164	164	147
65°	94	88	81	76	79	94
75°	42	35	22	18	18	45
85°	5	3	1	1	1	8
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°	524.2	524.2	524.2	524.2	524.2	524.2	524.2	524.2	524.2
2.5°	532.0	530.5	528.4	525.5	522.8	520.6	520.0	519.2	519.2
5°	543.3	540.4	536.2	530.5	527.0	524.8	522.8	521.3	521.3
7.5°	551.1	548.3	541.9	534.1	529.2	524.8	522.0	520.0	520.0
10°	554.7	551.1	543.3	533.4	525.5	520.0	515.6	514.3	514.3
12.5°	558.9	554.7	544.0	531.2	521.3	514.3	510.1	508.6	508.6
15°	563.1	558.2	544.8	529.9	517.1	508.6	505.0	504.4	504.4
17.5°	561.0	554.7	539.1	521.3	507.2	498.7	495.1	495.1	495.8
20°	549.7	543.3	525.5	505.7	490.8	484.4	481.7	483.1	484.4
22.5°	532.7	524.8	505.7	486.6	471.0	465.3	465.3	467.5	469.7
25°	511.4	504.4	485.9	464.6	449.7	445.5	447.0	450.5	453.4
27.5°	487.3	479.6	460.4	440.6	425.7	423.6	427.1	432.1	433.5
30°	454.7	448.4	432.1	413.0	400.2	399.6	404.4	408.0	411.5
32.5°	423.6	416.5	400.9	382.5	373.3	373.9	379.6	384.0	386.0
35°	387.5	381.1	369.7	354.8	346.4	347.8	354.1	358.5	359.2
37.5°	353.5	349.3	337.9	326.5	320.1	323.0	328.7	333.7	333.7
40°	319.4	315.9	307.4	298.2	294.6	298.2	303.8	308.2	308.2
42.5°	286.9	284.7	277.7	271.3	269.1	274.1	279.0	282.7	281.9
45°	257.9	255.7	250.7	245.8	245.1	250.0	254.3	256.4	257.1
47.5°	231.6	230.2	226.0	222.4	222.4	227.4	230.9	233.1	233.7
50°	207.6	206.1	202.6	199.7	200.4	205.4	208.3	210.4	211.1
52.5°	183.4	182.8	179.9	176.4	178.6	182.1	185.6	187.0	187.7
55°	163.0	163.0	159.3	156.6	158.0	161.5	163.6	164.3	164.3
57.5°	144.5	143.8	139.5	136.7	137.5	141.0	142.4	143.0	143.0
60°	126.8	126.1	121.9	117.6	117.6	119.7	120.4	121.1	121.1
62.5°	109.8	109.1	104.1	100.6	99.1	98.4	98.4	99.9	102.8
65°	94.2	93.5	88.5	82.8	80.8	78.6	76.5	78.0	79.3
67.5°	80.0	78.6	73.6	68.7	63.7	60.2	56.7	58.8	61.7
70°	66.6	65.2	59.5	53.8	48.1	42.4	39.7	42.4	43.9
72.5°	53.8	52.5	46.8	41.1	34.0	28.3	27.7	28.3	29.0
75°	41.8	41.1	35.4	29.0	22.0	17.8	17.8	17.8	17.8
77.5°	31.2	29.7	24.1	18.4	12.7	9.9	9.2	9.2	9.2
80°	21.3	19.8	14.9	10.6	5.7	4.2	4.2	3.5	3.5
82.5°	12.1	11.4	7.7	4.2	2.2	1.4	1.4	1.4	1.4
85°	5.0	4.2	2.8	1.4	0.7	0.7	0.7	0.7	0.7
87.5°	0.7	0.7	0.7	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)