

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO

Report Number: P677530

Luminaire Tested: ML410LSFL9FS1E-TL40R2GMW-5000K

Issue Date: 4/25/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P677530  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2304-979-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 4/25/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML410LSFL9FS1E-TL40R2GMW-5000K  
Description: RETROFIT, CONICAL LENS TRIM  
Light Source: (1) SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

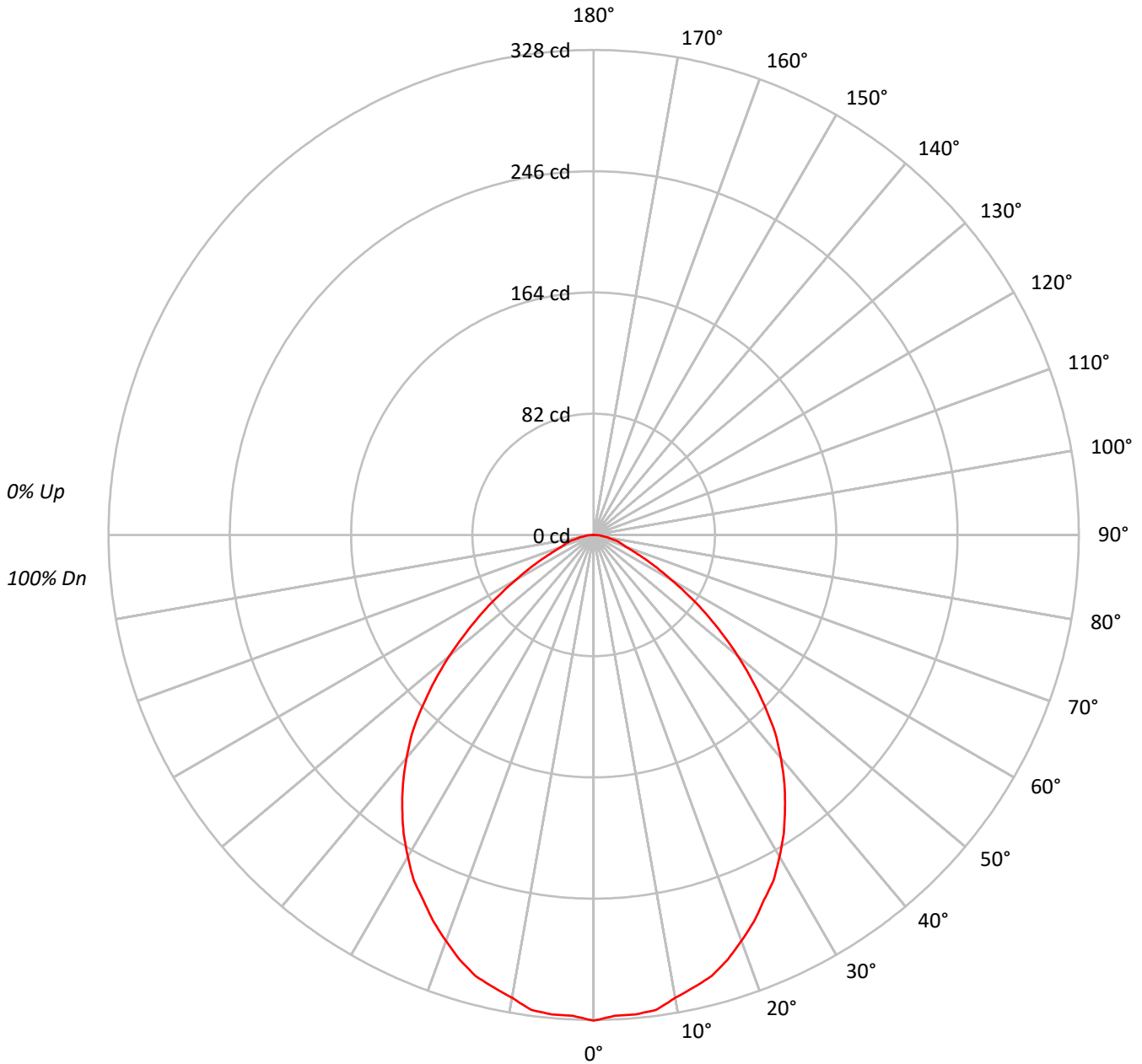
Lumens per Lamp: N/A  
Luminaire Lumens: 652.4 lumens  
Efficiency: N/A  
Efficacy: 54.4 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.23  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 12  
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: 24 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	103	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	59	53	49	58	53	48	47																			
7	70	58	50	45	69	57	50	45	56	49	44	55	48	44	53	48	44	42																			
8	66	53	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	37	33	31																			

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

	0°
0°	40519
5°	40302
10°	39816
15°	39433
20°	38355
25°	37086
30°	35792
35°	33970
40°	31688
45°	28520
50°	24409
55°	19849
60°	14949
65°	11032
70°	8186
75°	7959
80°	6464
85°	6369

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 28520 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.9	4.7
10°-20°	86.7	13.3
20°-30°	125.7	19.3
30°-40°	140.8	21.6
40°-50°	125.6	19.3
50°-60°	82.6	12.7
60°-70°	38.6	5.9
70°-80°	17.0	2.6
80°-90°	4.5	0.7
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°	243.2	37.3
0°-40°	384.0	58.9
0°-60°	592.2	90.8
0°-90°	652.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	652.4	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	328	
5°	326	31
15°	309	87
25°	272	126
35°	226	141
45°	164	126
55°	92	83
65°	38	39
75°	17	17
85°	4	5
90°	0	



TEST NUMBER: P677530  
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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	328.5
2.5°	325.5
5°	325.5
7.5°	324.0
10°	317.9
12.5°	313.4
15°	308.8
17.5°	301.2
20°	292.2
22.5°	283.1
25°	272.5
27.5°	263.4
30°	251.3
32.5°	239.2
35°	225.6
37.5°	211.9
40°	196.8
42.5°	181.7
45°	163.5
47.5°	145.3
50°	127.2
52.5°	109.0
55°	92.3
57.5°	75.7
60°	60.6
62.5°	48.4
65°	37.8
67.5°	28.8
70°	22.7
72.5°	19.7
75°	16.7
77.5°	12.1
80°	9.1
82.5°	6.1
85°	4.5
87.5°	1.5
90°	0.0

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Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180°

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(END OF REPORT)