

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: P677528

Luminaire Tested: ML410LSFL9FS1E-TL40R2GMW-3500K

Issue Date: 4/25/2023

Test Information

Test Method: LM-79-2019
Report Number: P677528
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-3500K
Description: RETROFIT, CONICAL LENS TRIM
Light Source: (1) SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

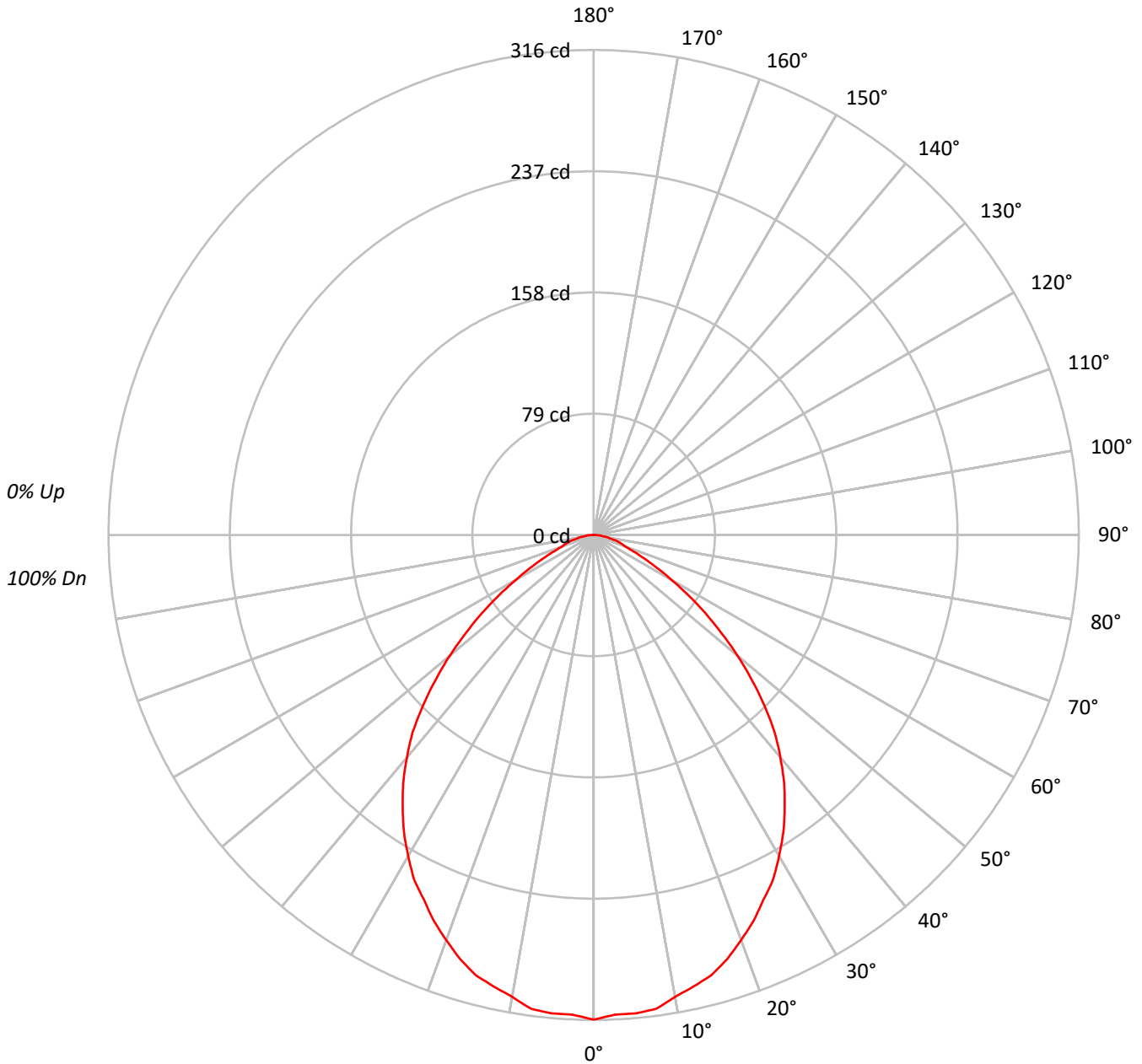
Lumens per Lamp: N/A
Luminaire Lumens: 627.2 lumens
Efficiency: N/A
Efficacy: 52.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.23
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12
Input Voltage (V): NR
Input Current (A_{in}): 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°	38953
5°	38742
10°	38276
15°	37913
20°	36871
25°	35657
30°	34410
35°	32660
40°	30464
45°	27422
50°	23468
55°	19096
60°	14357
65°	10624
70°	7862
75°	7625
80°	6180
85°	6227

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 27422 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	4.7
10°-20°	83.3	13.3
20°-30°	120.8	19.3
30°-40°	135.4	21.6
40°-50°	120.7	19.2
50°-60°	79.4	12.7
60°-70°	37.2	5.9
70°-80°	16.3	2.6
80°-90°	4.4	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°	233.8	37.3
0°-40°	369.2	58.9
0°-60°	569.4	90.8
0°-90°	627.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	627.2	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	316	
5°	313	30
15°	297	83
25°	262	121
35°	217	135
45°	157	121
55°	89	79
65°	36	37
75°	16	16
85°	4	4
90°	0	



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CANDELA DISTRIBUTION (FULL):

	0°
0°	315.8
2.5°	312.9
5°	312.9
7.5°	311.5
10°	305.6
12.5°	301.3
15°	296.9
17.5°	289.6
20°	280.9
22.5°	272.2
25°	262.0
27.5°	253.2
30°	241.6
32.5°	229.9
35°	216.9
37.5°	203.8
40°	189.2
42.5°	174.6
45°	157.2
47.5°	139.7
50°	122.3
52.5°	104.8
55°	88.8
57.5°	72.8
60°	58.2
62.5°	46.6
65°	36.4
67.5°	27.7
70°	21.8
72.5°	18.9
75°	16.0
77.5°	11.6
80°	8.7
82.5°	5.8
85°	4.4
87.5°	1.5
90°	0.0

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180°

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(END OF REPORT)