

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: P677529

Luminaire Tested: ML410LSFL9FS1E-TL40R2GMW-4000K

Issue Date: 4/25/2023

Test Information

Test Method: LM-79-2019
Report Number: P677529
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-4000K
Description: RETROFIT, CONICAL LENS TRIM
Light Source: (1) SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

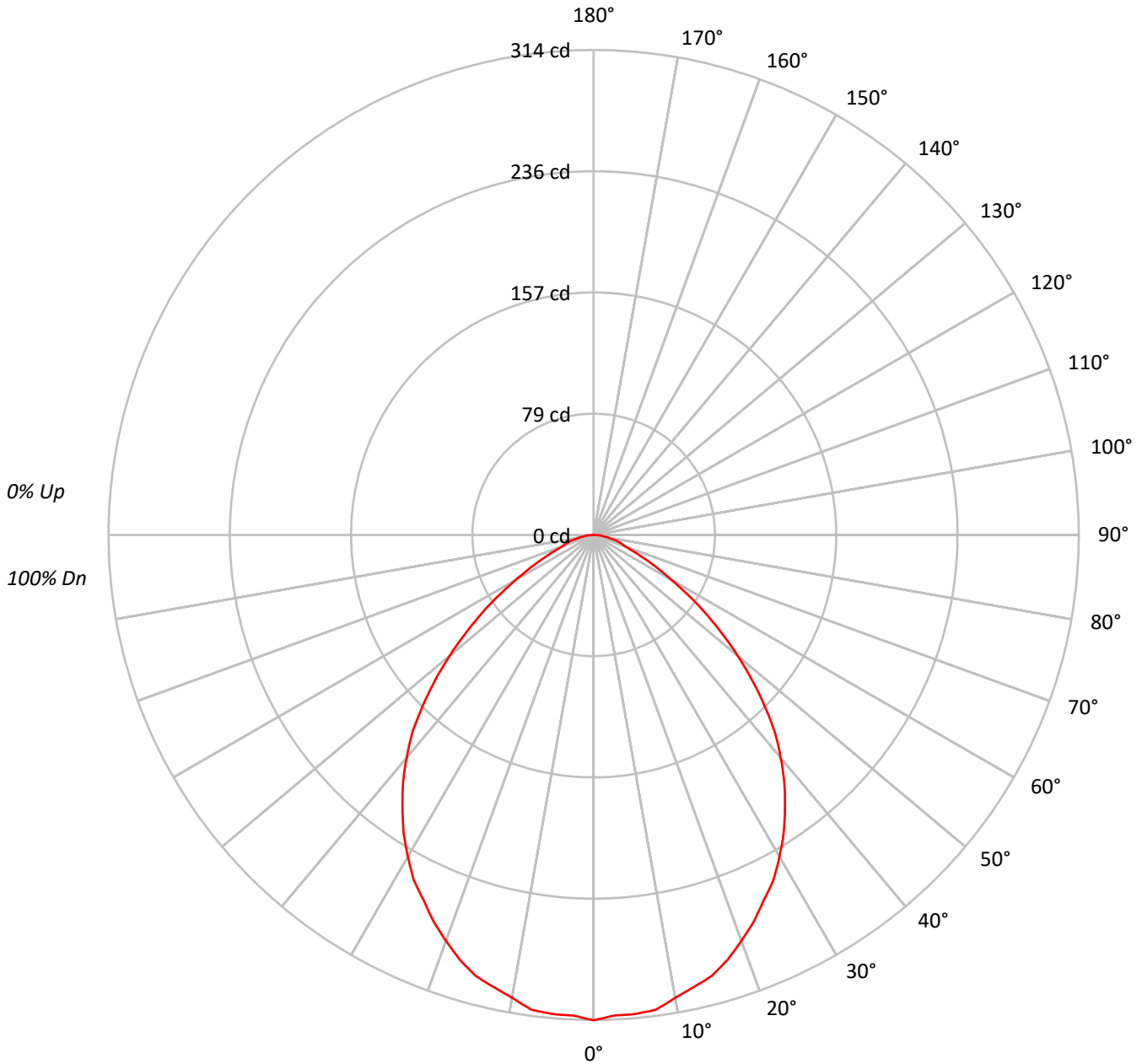
Lumens per Lamp: N/A
Luminaire Lumens: 624.2 lumens
Efficiency: N/A
Efficacy: 52.0 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.23
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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				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
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°	38768
5°	38557
10°	38101
15°	37734
20°	36701
25°	35480
30°	34254
35°	32495
40°	30319
45°	27282
50°	23353
55°	19010
60°	14283
65°	10565
70°	7826
75°	7577
80°	6180
85°	6085

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 27282 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.5	4.7
10°-20°	83.0	13.3
20°-30°	120.2	19.3
30°-40°	134.7	21.6
40°-50°	120.2	19.3
50°-60°	79.1	12.7
60°-70°	37.0	5.9
70°-80°	16.2	2.6
80°-90°	4.3	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°	232.7	37.3
0°-40°	367.5	58.9
0°-60°	566.7	90.8
0°-90°	624.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	624.2	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	314	
5°	311	30
15°	296	83
25°	261	120
35°	216	135
45°	156	120
55°	88	79
65°	36	37
75°	16	16
85°	4	4
90°	0	



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CANDELA DISTRIBUTION (FULL):

	0°
0°	314.3
2.5°	311.4
5°	311.4
7.5°	310.0
10°	304.2
12.5°	299.8
15°	295.5
17.5°	288.3
20°	279.6
22.5°	270.9
25°	260.7
27.5°	252.0
30°	240.5
32.5°	228.9
35°	215.8
37.5°	202.8
40°	188.3
42.5°	173.8
45°	156.4
47.5°	139.1
50°	121.7
52.5°	104.3
55°	88.4
57.5°	72.4
60°	57.9
62.5°	46.4
65°	36.2
67.5°	27.5
70°	21.7
72.5°	18.8
75°	15.9
77.5°	11.6
80°	8.7
82.5°	5.8
85°	4.3
87.5°	1.4
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)