

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: P885852

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMW-400LM-5000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885852
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-136)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMW-400LM-5000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

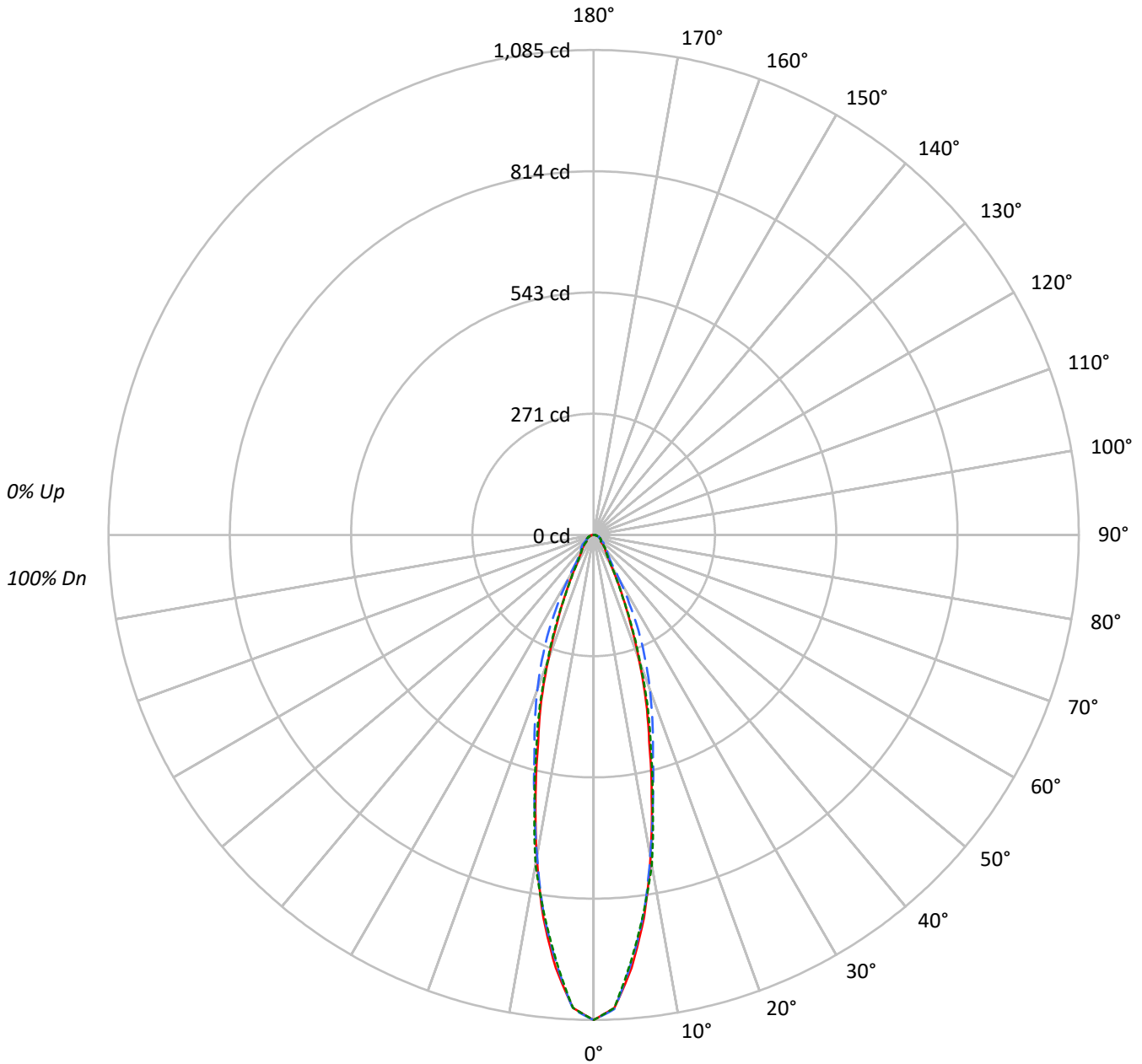
Lumens per Lamp: N/A
Luminaire Lumens: 418.3 lumens
Efficiency: N/A
Efficacy: 69.7 lumens/watt
Spacing Criteria (0/90/45): 0.45 / 0.46 / 0.55
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

Input Watts (W): 6
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					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	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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92					92			
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86					86			
3	102	95	90	86	100	94	89	85	91	87	84	89	86	83	87	84	82	80					80			
4	97	90	84	80	95	88	83	79	86	82	78	84	80	77	82	79	77	75					75			
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71					71			
6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67					67			
7	85	76	70	66	84	75	70	66	74	69	66	73	69	65	72	68	65	64					64			
8	82	73	67	63	80	72	67	63	71	66	63	70	66	62	69	65	62	61					61			
9	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	62	59	58					58			
10	76	67	61	58	75	66	61	58	65	61	57	65	60	57	64	60	57	56					56			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1682078	1682078	1682078
5°	1512838	1496656	1488565
10°	1152272	1148180	1178872
15°	768649	820801	793682
20°	488250	606024	498972
25°	266458	406356	259788
30°	137099	204396	137099
35°	93286	108046	95746
40°	78710	91862	81341
45°	59843	82421	62693
50°	50157	72101	50157
55°	52696	52696	52696
60°	56421	52391	56421
65°	52447	52447	52447
70°	53024	53024	53024
75°	46713	46713	46713
80°	46416	46416	46416
85°	46240	23120	46240

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 82421 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.9	20.3
10°-20°	139.5	33.4
20°-30°	88.2	21.1
30°-40°	37.3	8.9
40°-50°	24.9	6.0
50°-60°	17.8	4.3
60°-70°	14.4	3.5
70°-80°	8.5	2.0
80°-90°	2.7	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°	312.6	74.7
0°-40°	349.8	83.6
0°-60°	392.6	93.9
0°-90°	418.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	418.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1085	1085	1085	1085	1085	
5°	972	964	962	954	957	85
15°	479	493	512	501	495	134
25°	156	178	238	180	152	74
35°	49	58	57	57	51	32
45°	27	32	38	32	29	22
55°	20	20	20	20	20	17
65°	14	14	14	14	14	14
75°	8	8	8	8	8	8
85°	3	3	1	3	3	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1085.2	1085.2	1085.2	1085.2	1085.2
2.5°	1059.3	1059.3	1061.9	1059.3	1059.3
5°	972.3	964.5	961.9	954.1	956.7
7.5°	863.3	860.7	855.5	855.5	852.9
10°	732.1	734.7	729.5	737.3	749.0
12.5°	599.7	601.0	611.4	616.6	610.1
15°	479.0	493.3	511.5	501.1	494.6
17.5°	389.4	403.7	436.2	410.2	399.8
20°	296.0	323.2	367.4	329.7	302.5
22.5°	215.5	249.2	301.2	251.8	224.6
25°	155.8	177.8	237.6	180.4	151.9
27.5°	109.0	127.2	172.7	128.5	107.7
30°	76.6	96.1	114.2	93.5	76.6
32.5°	59.7	75.3	72.7	72.7	58.4
35°	49.3	58.4	57.1	57.1	50.6
37.5°	42.8	46.7	50.6	48.0	44.1
40°	38.9	41.5	45.4	41.5	40.2
42.5°	33.8	37.6	41.5	37.6	35.0
45°	27.3	32.5	37.6	32.5	28.6
47.5°	22.1	24.7	35.0	26.0	22.1
50°	20.8	20.8	29.9	20.8	20.8
52.5°	20.8	20.8	23.4	20.8	20.8
55°	19.5	19.5	19.5	19.5	19.5
57.5°	18.2	18.2	18.2	18.2	18.2
60°	18.2	18.2	16.9	18.2	18.2
62.5°	15.6	16.9	15.6	16.9	15.6
65°	14.3	14.3	14.3	14.3	14.3
67.5°	13.0	13.0	13.0	13.0	13.0
70°	11.7	11.7	11.7	11.7	11.7
72.5°	9.1	9.1	9.1	10.4	9.1
75°	7.8	7.8	7.8	7.8	7.8
77.5°	6.5	6.5	6.5	6.5	6.5
80°	5.2	5.2	5.2	5.2	5.2
82.5°	3.9	3.9	3.9	3.9	3.9
85°	2.6	2.6	1.3	2.6	2.6
87.5°	1.3	1.3	1.3	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0

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

Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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