

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: P885848

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMW-400LM-2700K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885848
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-2700K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

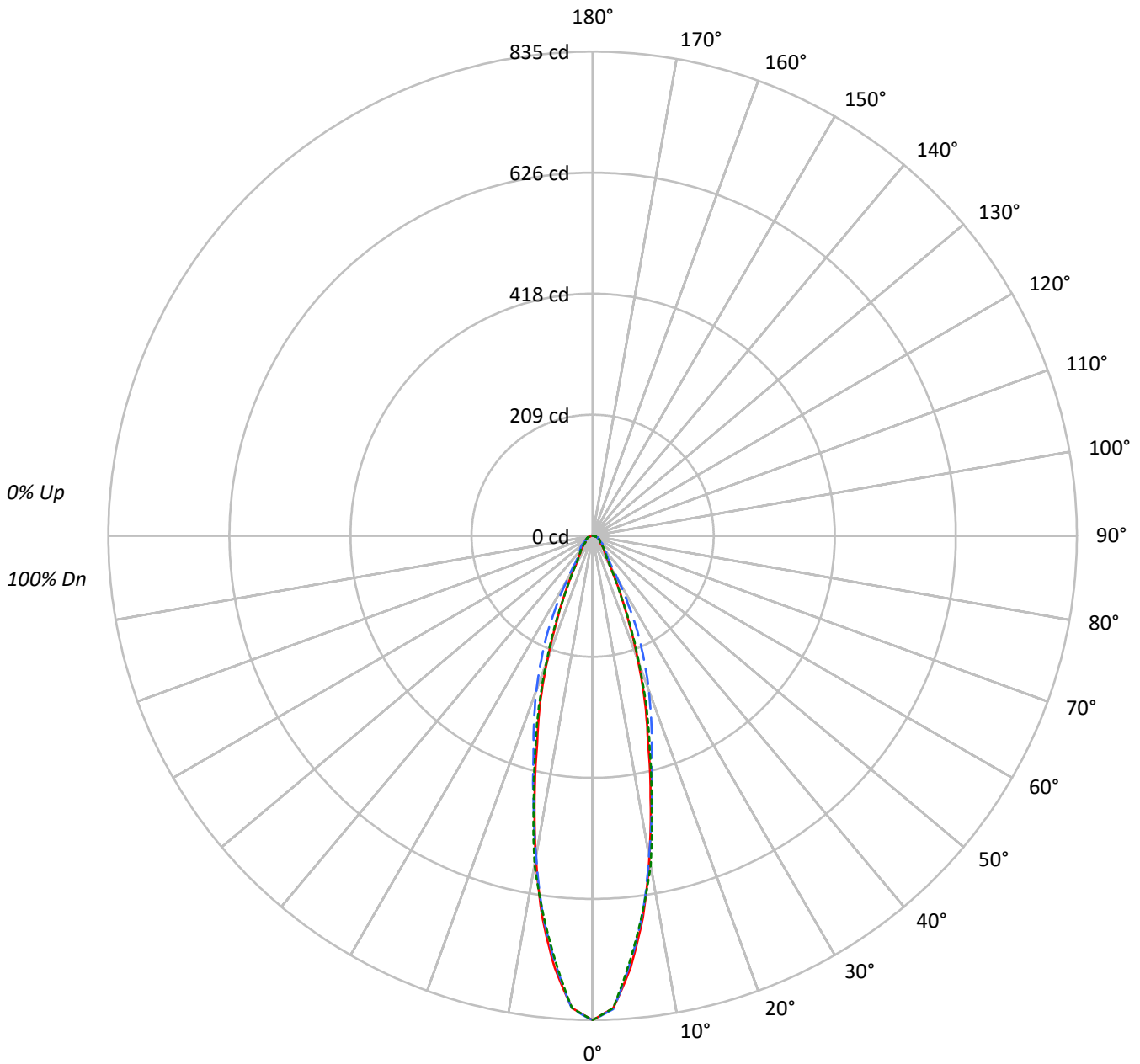
Lumens per Lamp: N/A
Luminaire Lumens: 321.9 lumens
Efficiency: N/A
Efficacy: 53.6 lumens/watt
Spacing Criteria (0/90/45): 0.45 / 0.46 / 0.55
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

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	57	65	61	57	65	60	57	64	60	57	56					56			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1294419	1294419	1294419
5°	1164152	1151705	1145481
10°	886751	883603	907212
15°	591491	631608	610747
20°	375589	466312	383837
25°	205059	312634	199929
30°	105419	157324	105419
35°	71904	83258	73797
40°	60702	70819	62725
45°	46033	63570	48225
50°	38582	55462	38582
55°	40536	40536	40536
60°	43400	40300	43400
65°	40344	40344	40344
70°	40787	40787	40787
75°	35933	35933	35933
80°	35705	35705	35705
85°	35569	17784	35569

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 63570 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.3	20.3
10°-20°	107.4	33.4
20°-30°	67.8	21.1
30°-40°	28.7	8.9
40°-50°	19.2	6.0
50°-60°	13.7	4.3
60°-70°	11.1	3.5
70°-80°	6.5	2.0
80°-90°	2.1	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°	240.5	74.7
0°-40°	269.2	83.6
0°-60°	302.1	93.9
0°-90°	321.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	321.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	835	835	835	835	835	
5°	748	742	740	734	736	66
15°	369	380	394	386	381	103
25°	120	137	183	139	117	57
35°	38	45	44	44	39	25
45°	21	25	29	25	22	17
55°	15	15	15	15	15	13
65°	11	11	11	11	11	11
75°	6	6	6	6	6	6
85°	2	2	1	2	2	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	835.1	835.1	835.1	835.1	835.1
2.5°	815.1	815.1	817.1	815.1	815.1
5°	748.2	742.2	740.2	734.2	736.2
7.5°	664.3	662.3	658.3	658.3	656.3
10°	563.4	565.4	561.4	567.4	576.4
12.5°	461.5	462.5	470.5	474.5	469.5
15°	368.6	379.6	393.6	385.6	380.6
17.5°	299.7	310.7	335.6	315.6	307.7
20°	227.7	248.7	282.7	253.7	232.7
22.5°	165.8	191.8	231.7	193.8	172.8
25°	119.9	136.8	182.8	138.8	116.9
27.5°	83.9	97.9	132.9	98.9	82.9
30°	58.9	73.9	87.9	71.9	58.9
32.5°	45.9	57.9	55.9	55.9	45.0
35°	38.0	45.0	44.0	44.0	39.0
37.5°	33.0	36.0	39.0	37.0	34.0
40°	30.0	32.0	35.0	32.0	31.0
42.5°	26.0	29.0	32.0	29.0	27.0
45°	21.0	25.0	29.0	25.0	22.0
47.5°	17.0	19.0	27.0	20.0	17.0
50°	16.0	16.0	23.0	16.0	16.0
52.5°	16.0	16.0	18.0	16.0	16.0
55°	15.0	15.0	15.0	15.0	15.0
57.5°	14.0	14.0	14.0	14.0	14.0
60°	14.0	14.0	13.0	14.0	14.0
62.5°	12.0	13.0	12.0	13.0	12.0
65°	11.0	11.0	11.0	11.0	11.0
67.5°	10.0	10.0	10.0	10.0	10.0
70°	9.0	9.0	9.0	9.0	9.0
72.5°	7.0	7.0	7.0	8.0	7.0
75°	6.0	6.0	6.0	6.0	6.0
77.5°	5.0	5.0	5.0	5.0	5.0
80°	4.0	4.0	4.0	4.0	4.0
82.5°	3.0	3.0	3.0	3.0	3.0
85°	2.0	2.0	1.0	2.0	2.0
87.5°	1.0	1.0	1.0	1.0	1.0
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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