

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: P885851

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMW-400LM-4000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885851
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-4000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

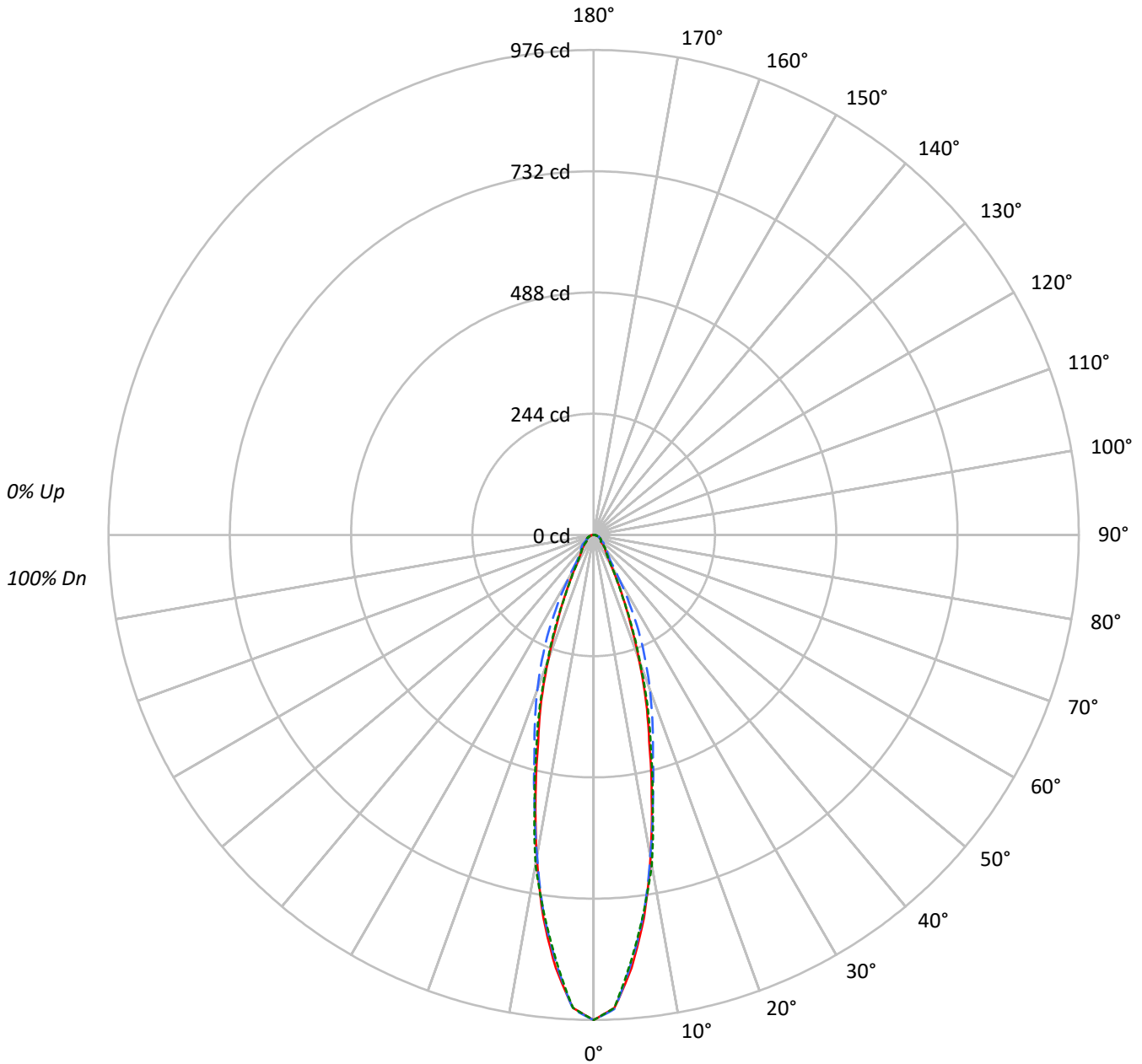
Lumens per Lamp: N/A
Luminaire Lumens: 376.2 lumens
Efficiency: N/A
Efficacy: 62.7 lumens/watt
Spacing Criteria (0/90/45): 0.45 / 0.46 / 0.55
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

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									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°	1513281	1513281	1513281
5°	1360978	1346508	1339195
10°	1036746	1032969	1060512
15°	691463	738320	713929
20°	439260	545157	448827
25°	239607	365481	233621
30°	123318	183992	123318
35°	84015	97260	86096
40°	70819	82757	73247
45°	53705	74311	56336
50°	45093	64867	45093
55°	47291	47291	47291
60°	50531	47120	50531
65°	46946	46946	46946
70°	47585	47585	47585
75°	41922	41922	41922
80°	41953	41953	41953
85°	40904	21341	40904

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 74311 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	20.3
10°-20°	125.5	33.4
20°-30°	79.3	21.1
30°-40°	33.5	8.9
40°-50°	22.4	6.0
50°-60°	16.0	4.2
60°-70°	13.0	3.4
70°-80°	7.6	2.0
80°-90°	2.5	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°	281.2	74.7
0°-40°	314.7	83.7
0°-60°	353.2	93.9
0°-90°	376.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	376.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	976	976	976	976	976	
5°	875	868	865	858	861	77
15°	431	444	460	451	445	121
25°	140	160	214	162	137	67
35°	44	53	51	51	46	29
45°	24	29	34	29	26	19
55°	18	18	18	18	18	16
65°	13	13	13	13	13	13
75°	7	7	7	7	7	8
85°	2	2	1	2	2	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	976.3	976.3	976.3	976.3	976.3
2.5°	953.0	953.0	955.3	953.0	953.0
5°	874.7	867.7	865.4	858.4	860.7
7.5°	776.6	774.3	769.6	769.6	767.3
10°	658.7	661.0	656.3	663.3	673.8
12.5°	539.5	540.7	550.0	554.7	548.9
15°	430.9	443.8	460.1	450.8	444.9
17.5°	350.3	363.2	392.4	369.0	359.7
20°	266.3	290.8	330.5	296.6	272.1
22.5°	193.9	224.2	270.9	226.6	202.0
25°	140.1	160.0	213.7	162.3	136.6
27.5°	98.1	114.4	155.3	115.6	96.9
30°	68.9	86.4	102.8	84.1	68.9
32.5°	53.7	67.7	65.4	65.4	52.6
35°	44.4	52.6	51.4	51.4	45.5
37.5°	38.5	42.0	45.5	43.2	39.7
40°	35.0	37.4	40.9	37.4	36.2
42.5°	30.4	33.9	37.4	33.9	31.5
45°	24.5	29.2	33.9	29.2	25.7
47.5°	19.9	22.2	31.5	23.4	19.9
50°	18.7	18.7	26.9	18.7	18.7
52.5°	18.7	18.7	21.0	18.7	18.7
55°	17.5	17.5	17.5	17.5	17.5
57.5°	16.3	16.3	16.3	16.3	16.3
60°	16.3	16.3	15.2	16.3	16.3
62.5°	14.0	15.2	14.0	15.2	14.0
65°	12.8	12.8	12.8	12.8	12.8
67.5°	11.7	11.7	11.7	11.7	11.7
70°	10.5	10.5	10.5	10.5	10.5
72.5°	8.2	8.2	8.2	9.3	8.2
75°	7.0	7.0	7.0	7.0	7.0
77.5°	5.8	5.8	5.8	5.8	5.8
80°	4.7	4.7	4.7	4.7	4.7
82.5°	3.5	3.5	3.5	3.5	3.5
85°	2.3	2.3	1.2	2.3	2.3
87.5°	1.2	1.2	1.2	1.2	1.2
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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