

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: P885849

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMW-400LM-3000K

Issue Date: 6/19/2024

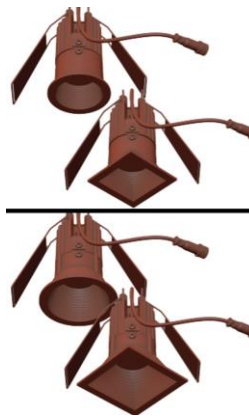
Test Information

Test Method: LM-79-2019
Report Number: P885849
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-3000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

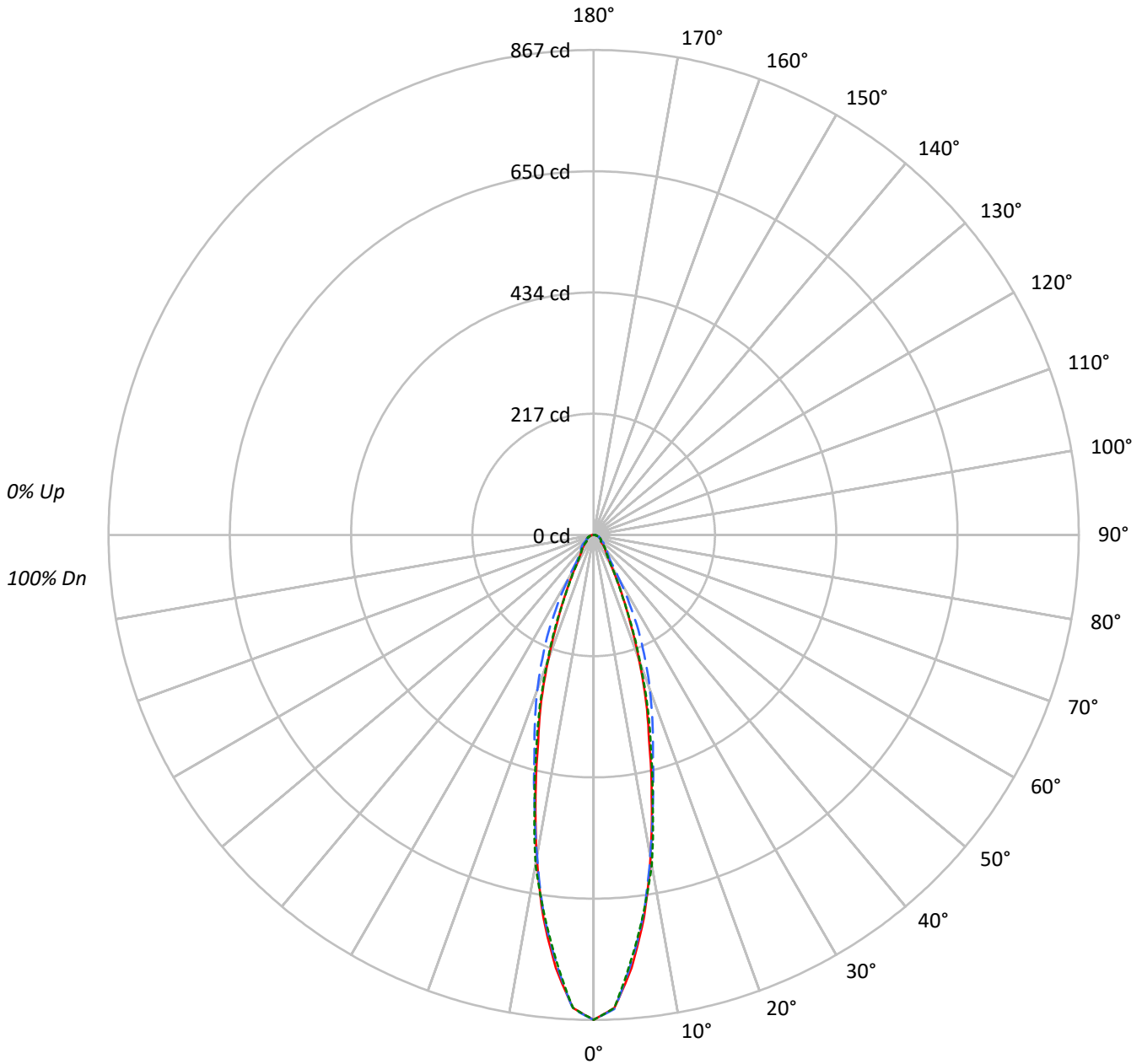
Lumens per Lamp: N/A
Luminaire Lumens: 334.1 lumens
Efficiency: N/A
Efficacy: 55.7 lumens/watt
Spacing Criteria (0/90/45): 0.45 / 0.46 / 0.55
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

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	98	97	97	95	94	92
	1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92	92	91	89	87	87	86	86
	2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86	86	84	82	82	82	80	80
	3	102	95	90	86	100	94	89	85	91	87	84	89	86	83	87	84	82	80	80	82	79	77	77	75	75
	4	97	90	84	80	95	88	83	79	86	82	78	84	80	77	82	79	77	75	75	79	75	72	72	71	71
	5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71	71	79	75	72	72	71	71
	6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67	67	75	71	68	68	67	67
	7	85	76	70	66	84	75	70	66	74	69	66	73	69	65	72	68	65	64	64	72	68	65	65	64	64
	8	82	73	67	63	80	72	67	63	71	66	63	70	66	62	69	65	62	61	61	69	65	62	62	61	61
	9	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	62	59	58	58	66	62	59	59	58	58
	10	76	67	61	58	75	66	61	58	65	61	57	65	60	57	64	60	57	56	56	64	60	57	57	56	56

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1343864	1343864	1343864
5°	1208652	1195738	1189203
10°	920590	917442	941838
15°	614117	655678	634015
20°	390105	484126	398517
25°	212927	324606	207454
30°	109536	163409	109536
35°	74553	86285	76446
40°	62928	73450	65154
45°	47787	65981	49979
50°	40029	57632	40029
55°	42157	42157	42157
60°	44950	41850	44950
65°	41811	41811	41811
70°	42147	42147	42147
75°	37131	37131	37131
80°	36597	36597	36597
85°	37347	17784	37347

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 65981 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	20.3
10°-20°	111.5	33.4
20°-30°	70.4	21.1
30°-40°	29.8	8.9
40°-50°	19.9	6.0
50°-60°	14.2	4.3
60°-70°	11.5	3.4
70°-80°	6.8	2.0
80°-90°	2.2	0.6
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°	249.7	74.7
0°-40°	279.5	83.7
0°-60°	313.6	93.9
0°-90°	334.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	334.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	867	867	867	867	867	
5°	777	771	768	762	764	68
15°	383	394	409	400	395	107
25°	124	142	190	144	121	59
35°	39	47	46	46	40	26
45°	22	26	30	26	23	17
55°	16	16	16	16	16	14
65°	11	11	11	11	11	11
75°	6	6	6	6	6	7
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°	867.0	867.0	867.0	867.0	867.0
2.5°	846.3	846.3	848.4	846.3	846.3
5°	776.8	770.6	768.5	762.3	764.3
7.5°	689.7	687.6	683.5	683.5	681.4
10°	584.9	587.0	582.9	589.1	598.4
12.5°	479.1	480.2	488.5	492.6	487.4
15°	382.7	394.1	408.6	400.3	395.1
17.5°	311.1	322.5	348.5	327.7	319.4
20°	236.5	258.2	293.5	263.4	241.6
22.5°	172.2	199.1	240.6	201.2	179.4
25°	124.5	142.1	189.8	144.2	121.3
27.5°	87.1	101.6	137.9	102.7	86.1
30°	61.2	76.7	91.3	74.7	61.2
32.5°	47.7	60.2	58.1	58.1	46.7
35°	39.4	46.7	45.6	45.6	40.4
37.5°	34.2	37.3	40.4	38.4	35.3
40°	31.1	33.2	36.3	33.2	32.2
42.5°	27.0	30.1	33.2	30.1	28.0
45°	21.8	25.9	30.1	25.9	22.8
47.5°	17.6	19.7	28.0	20.7	17.6
50°	16.6	16.6	23.9	16.6	16.6
52.5°	16.6	16.6	18.7	16.6	16.6
55°	15.6	15.6	15.6	15.6	15.6
57.5°	14.5	14.5	14.5	14.5	14.5
60°	14.5	14.5	13.5	14.5	14.5
62.5°	12.4	13.5	12.4	13.5	12.4
65°	11.4	11.4	11.4	11.4	11.4
67.5°	10.4	10.4	10.4	10.4	10.4
70°	9.3	9.3	9.3	9.3	9.3
72.5°	7.3	7.3	7.3	8.3	7.3
75°	6.2	6.2	6.2	6.2	6.2
77.5°	5.2	5.2	5.2	5.2	5.2
80°	4.1	4.1	4.1	4.1	4.1
82.5°	3.1	3.1	3.1	3.1	3.1
85°	2.1	2.1	1.0	2.1	2.1
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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