

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: P885916

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMWB-400LM-4000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885916  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-145)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMWB-400LM-4000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE BAFFLED TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

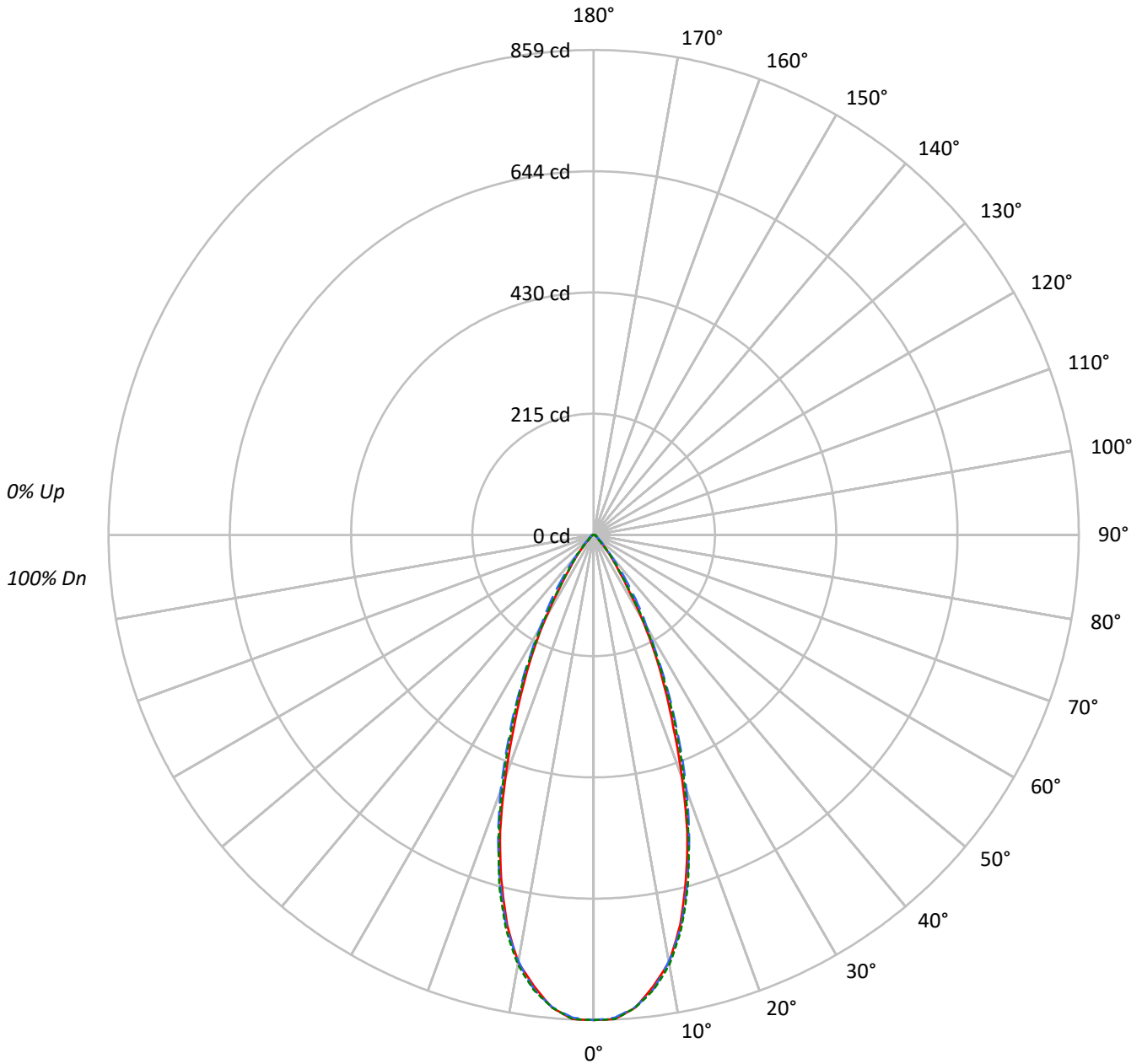
Lumens per Lamp: N/A  
Luminaire Lumens: 488.9 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.69 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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				
RW	70	50	30	10	70	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		
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94		
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88		
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	84	83		
4	99	92	87	83	97	91	86	82	89	85	81	87	83	81	85	82	80	78		
5	95	87	82	78	93	86	81	77	84	80	77	83	79	76	81	78	75	74		
6	91	82	77	73	89	82	76	73	80	76	72	79	75	72	78	74	71	70		
7	87	78	73	69	85	78	72	69	76	72	68	75	71	68	74	70	68	66		
8	83	74	69	65	82	74	69	65	73	68	65	72	68	65	71	67	64	63		
9	80	71	66	62	79	70	65	62	70	65	62	69	64	61	68	64	61	60		
10	77	68	63	59	76	67	62	59	67	62	59	66	62	59	65	61	58	57		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1332084	1332084	1332084
5°	1308076	1306365	1308076
10°	1209091	1207360	1216489
15°	1013204	1026363	1033905
20°	752169	792746	775427
25°	505893	544032	530008
30°	301403	337020	318048
35°	146079	199062	154973
40°	80531	96921	82757
45°	35950	51294	33319
50°	22667	28213	22667
55°	18917	22159	18917
60°	17980	17980	17980
65°	17238	17238	17238
70°	15862	15862	15862
75°	13774	13774	13774
80°	10711	20530	20530
85°	21341	21341	21341

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 51294 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.9	15.9
10°-20°	174.8	35.8
20°-30°	142.4	29.1
30°-40°	60.9	12.5
40°-50°	17.2	3.5
50°-60°	7.0	1.4
60°-70°	4.9	1.0
70°-80°	2.9	0.6
80°-90°	0.9	0.2
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°	395.1	80.8
0°-40°	456.0	93.3
0°-60°	480.2	98.2
0°-90°	488.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	488.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	859	859	859	859	859	
5°	841	840	840	840	841	78
15°	631	634	640	642	644	173
25°	296	303	318	311	310	136
35°	77	86	105	92	82	54
45°	16	20	23	20	15	15
55°	7	8	8	8	7	6
65°	5	5	5	5	5	5
75°	2	2	2	2	2	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	859.4	859.4	859.4	859.4	859.4
2.5°	858.3	857.1	855.9	857.1	858.3
5°	840.7	839.6	839.6	839.6	840.7
7.5°	806.8	810.3	811.5	812.7	812.7
10°	768.2	765.9	767.1	769.4	772.9
12.5°	707.4	708.6	712.1	714.4	715.6
15°	631.4	633.8	639.6	641.9	644.3
17.5°	550.7	553.1	562.4	561.3	557.8
20°	456.0	464.2	480.6	480.6	470.1
22.5°	368.3	380.0	395.2	390.5	387.0
25°	295.8	302.9	318.1	311.0	309.9
27.5°	230.4	239.7	246.7	246.7	239.7
30°	168.4	183.6	188.3	188.3	177.7
32.5°	113.4	127.5	145.0	134.5	119.3
35°	77.2	86.5	105.2	92.4	81.9
37.5°	56.1	60.8	72.5	62.0	58.5
40°	39.8	43.3	47.9	44.4	40.9
42.5°	26.9	29.2	32.7	30.4	26.9
45°	16.4	19.9	23.4	19.9	15.2
47.5°	11.7	12.9	17.5	12.9	11.7
50°	9.4	10.5	11.7	10.5	9.4
52.5°	8.2	8.2	9.4	8.2	8.2
55°	7.0	8.2	8.2	8.2	7.0
57.5°	5.8	7.0	7.0	7.0	5.8
60°	5.8	5.8	5.8	5.8	5.8
62.5°	5.8	5.8	5.8	5.8	5.8
65°	4.7	4.7	4.7	4.7	4.7
67.5°	4.7	4.7	4.7	4.7	4.7
70°	3.5	3.5	3.5	3.5	3.5
72.5°	3.5	3.5	3.5	3.5	3.5
75°	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3
80°	1.2	2.3	2.3	2.3	2.3
82.5°	1.2	1.2	1.2	1.2	1.2
85°	1.2	1.2	1.2	1.2	1.2
87.5°	0.0	0.0	0.0	0.0	0.0
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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