

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: P885976

Luminaire Tested: ML104LSFL9FS1E-TIR1D55WFL-TL1SDMWB-400LM-4000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885976  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-151)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D55WFL-TL1SDMWB-400LM-4000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE BAFFLED TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

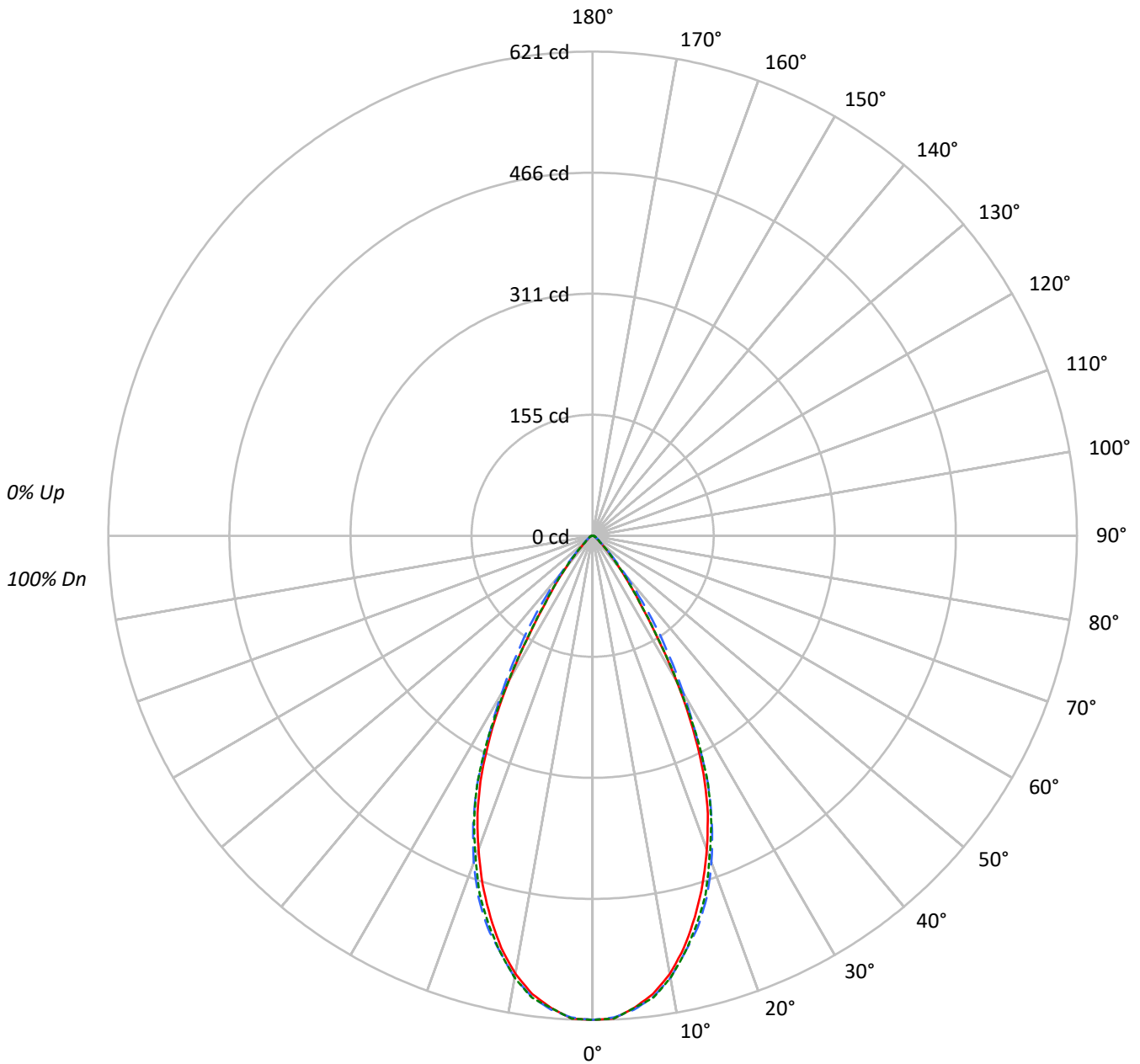
Lumens per Lamp: N/A  
Luminaire Lumens: 470.8 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 0.83 / 0.81  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	113	111	108	106	111	109	106	104	104	103	101	101	99	98	97	96	95	93																			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89	87																			
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81																			
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76																			
5	93	85	79	75	91	84	78	74	82	77	74	80	76	73	79	75	72	71																			
6	88	80	74	70	87	79	73	69	77	73	69	76	72	69	75	71	68	67																			
7	84	75	69	65	83	75	69	65	73	68	65	72	68	64	71	67	64	63																			
8	80	71	65	61	79	71	65	61	70	65	61	69	64	61	68	63	60	59																			
9	77	67	62	58	76	67	61	58	66	61	58	65	61	57	64	60	57	56																			
10	73	64	58	55	72	64	58	55	63	58	54	62	57	54	61	57	54	53																			

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

	0°	45°	90°
0°	962405	962405	962405
5°	946010	949588	946010
10°	898083	905481	905481
15°	812457	834923	827381
20°	705818	734849	723303
25°	575842	597905	597905
30°	384987	416488	389282
35°	201332	263208	203603
40°	106431	130105	108859
45°	53925	61597	53925
50°	25320	33760	28213
55°	18917	22159	18917
60°	17980	17980	17980
65°	17238	17238	17238
70°	15862	15862	15862
75°	13774	13774	13774
80°	10711	10711	10711
85°	21341	21341	21341

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 61597 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.1	12.1
10°-20°	143.2	30.4
20°-30°	154.5	32.8
30°-40°	78.5	16.7
40°-50°	22.1	4.7
50°-60°	7.2	1.5
60°-70°	4.5	1.0
70°-80°	2.8	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°	354.8	75.4
0°-40°	433.4	92.1
0°-60°	462.7	98.3
0°-90°	470.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	470.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	621	621	621	621	621	
5°	608	610	610	610	608	57
15°	506	512	520	519	516	141
25°	337	341	350	350	350	150
35°	106	117	139	119	108	72
45°	25	26	28	26	25	20
55°	7	7	8	8	7	6
65°	5	5	5	5	5	4
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°	620.9	620.9	620.9	620.9	620.9
2.5°	619.7	618.5	618.5	619.7	619.7
5°	608.0	610.3	610.3	610.3	608.0
7.5°	592.8	594.0	596.3	596.3	597.5
10°	570.6	572.9	575.3	575.3	575.3
12.5°	541.3	543.7	547.2	548.4	547.2
15°	506.3	512.1	520.3	519.1	515.6
17.5°	468.9	475.9	486.4	482.9	481.7
20°	427.9	436.1	445.5	442.0	438.5
22.5°	385.8	392.9	399.9	399.9	397.5
25°	336.7	341.4	349.6	349.6	349.6
27.5°	278.3	284.1	286.5	291.1	287.6
30°	215.1	223.3	232.7	230.3	217.5
32.5°	153.2	166.0	182.4	170.7	155.5
35°	106.4	116.9	139.1	119.3	107.6
37.5°	76.0	79.5	97.0	79.5	77.2
40°	52.6	55.0	64.3	55.0	53.8
42.5°	36.2	38.6	42.1	38.6	35.1
45°	24.6	25.7	28.1	25.7	24.6
47.5°	15.2	16.4	18.7	17.5	16.4
50°	10.5	11.7	14.0	12.9	11.7
52.5°	8.2	9.4	10.5	9.4	9.4
55°	7.0	7.0	8.2	8.2	7.0
57.5°	5.8	5.8	7.0	5.8	5.8
60°	5.8	5.8	5.8	5.8	5.8
62.5°	4.7	4.7	4.7	4.7	4.7
65°	4.7	4.7	4.7	4.7	4.7
67.5°	3.5	4.7	3.5	4.7	3.5
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	1.2	1.2	2.3	1.2
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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