

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: P886918

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDSL-1020LM-4000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886918
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-52)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D40FL-TL4SDSL-1020LM-4000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1325.7 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.64
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

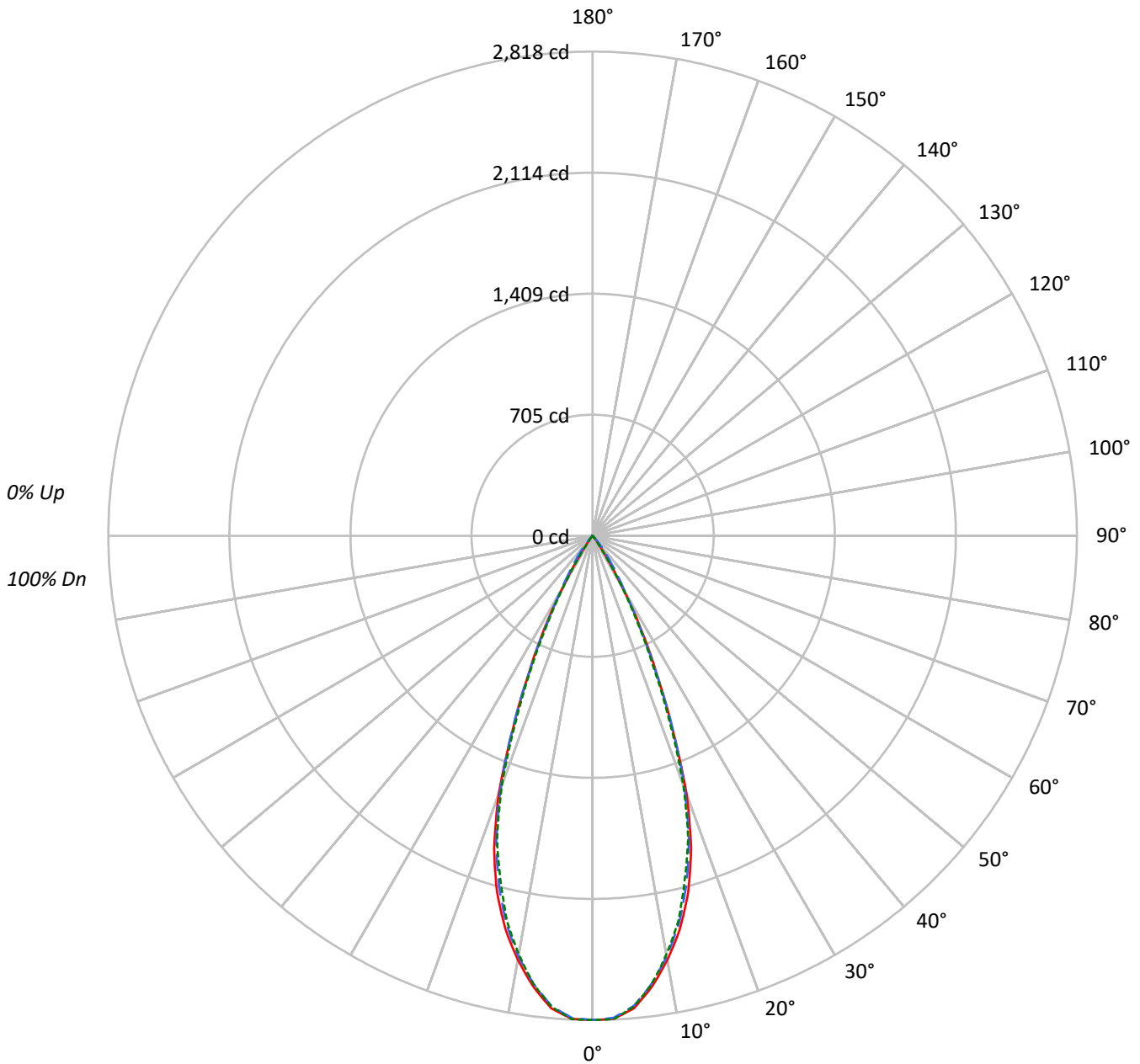
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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								
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95								
2	110	106	103	100	108	104	101	99	101	99	97	98	96	94	96	94	93	91								
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87								
4	102	96	91	88	100	95	90	87	92	89	86	91	88	85	89	86	84	83								
5	98	91	86	83	96	90	86	83	89	85	82	87	84	81	86	83	80	79								
6	94	87	82	79	93	86	82	78	85	81	78	84	80	77	82	79	77	76								
7	91	83	78	75	90	83	78	75	82	77	74	80	77	74	79	76	74	73								
8	88	80	75	72	87	79	75	72	78	74	71	77	74	71	77	73	71	70								
9	84	77	72	69	84	76	72	68	75	71	68	75	71	68	74	70	68	67								
10	82	74	69	66	81	73	69	66	73	68	66	72	68	65	71	68	65	64								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	273014	273014	273014
5°	268504	267075	267493
10°	246476	244518	243318
15°	215509	211247	207777
20°	164732	161340	159020
25°	93411	92300	88409
30°	38458	42239	36523
35°	7687	19360	6765
40°	1530	7006	1530
45°	589	1548	480
50°	392	527	392
55°	287	287	287
60°	329	329	174
65°	206	206	206
70°	255	255	255
75°	337	337	337
80°	0	502	502
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1548 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.0	19.2
10°-20°	577.2	43.5
20°-30°	400.3	30.2
30°-40°	83.6	6.3
40°-50°	6.9	0.5
50°-60°	1.7	0.1
60°-70°	1.0	0.1
70°-80°	0.9	0.1
80°-90°	0.1	0.0
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°	1231.5	92.9
0°-40°	1315.0	99.2
0°-60°	1323.7	99.8
0°-90°	1325.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1325.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2818	2818	2818	2818	2818	
5°	2761	2754	2746	2747	2751	255
15°	2149	2139	2106	2086	2072	586
25°	874	874	864	843	827	406
35°	65	101	164	94	57	64
45°	4	4	11	4	4	4
55°	2	2	2	2	2	2
65°	1	1	1	1	1	1
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2818.2	2818.2	2818.2	2818.2	2818.2
2.5°	2813.9	2813.0	2807.8	2810.4	2815.6
5°	2761.1	2754.1	2746.4	2747.2	2750.7
7.5°	2646.8	2651.1	2630.3	2634.6	2632.0
10°	2505.6	2496.9	2485.7	2481.3	2473.5
12.5°	2345.4	2335.0	2315.0	2296.9	2299.5
15°	2148.8	2139.2	2106.3	2085.5	2071.7
17.5°	1906.3	1895.0	1865.5	1857.7	1848.2
20°	1597.9	1590.1	1565.0	1543.4	1542.5
22.5°	1207.3	1222.0	1220.3	1184.8	1170.9
25°	873.9	873.9	863.5	842.7	827.1
27.5°	604.5	591.5	572.5	566.4	551.7
30°	343.8	369.8	377.6	358.6	326.5
32.5°	162.0	214.8	252.0	201.8	142.0
35°	65.0	101.3	163.7	93.5	57.2
37.5°	28.6	44.2	102.2	40.7	26.8
40°	12.1	19.9	55.4	19.1	12.1
42.5°	6.9	9.5	26.8	8.7	6.1
45°	4.3	4.3	11.3	4.3	3.5
47.5°	2.6	3.5	5.2	2.6	2.6
50°	2.6	2.6	3.5	2.6	2.6
52.5°	1.7	1.7	2.6	1.7	1.7
55°	1.7	1.7	1.7	1.7	1.7
57.5°	1.7	1.7	1.7	1.7	1.7
60°	1.7	1.7	1.7	1.7	0.9
62.5°	0.9	0.9	1.7	0.9	0.9
65°	0.9	0.9	0.9	0.9	0.9
67.5°	0.9	0.9	0.9	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.0	0.9	0.9	0.9	0.9
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
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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