

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: P886942

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-3500K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886942
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-54)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/10/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-3500K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1210.9 lumens
Efficiency: N/A
Efficacy: 68.8 lumens/watt
Spacing Criteria (0/90/45): 0.89 / 0.88 / 0.83
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

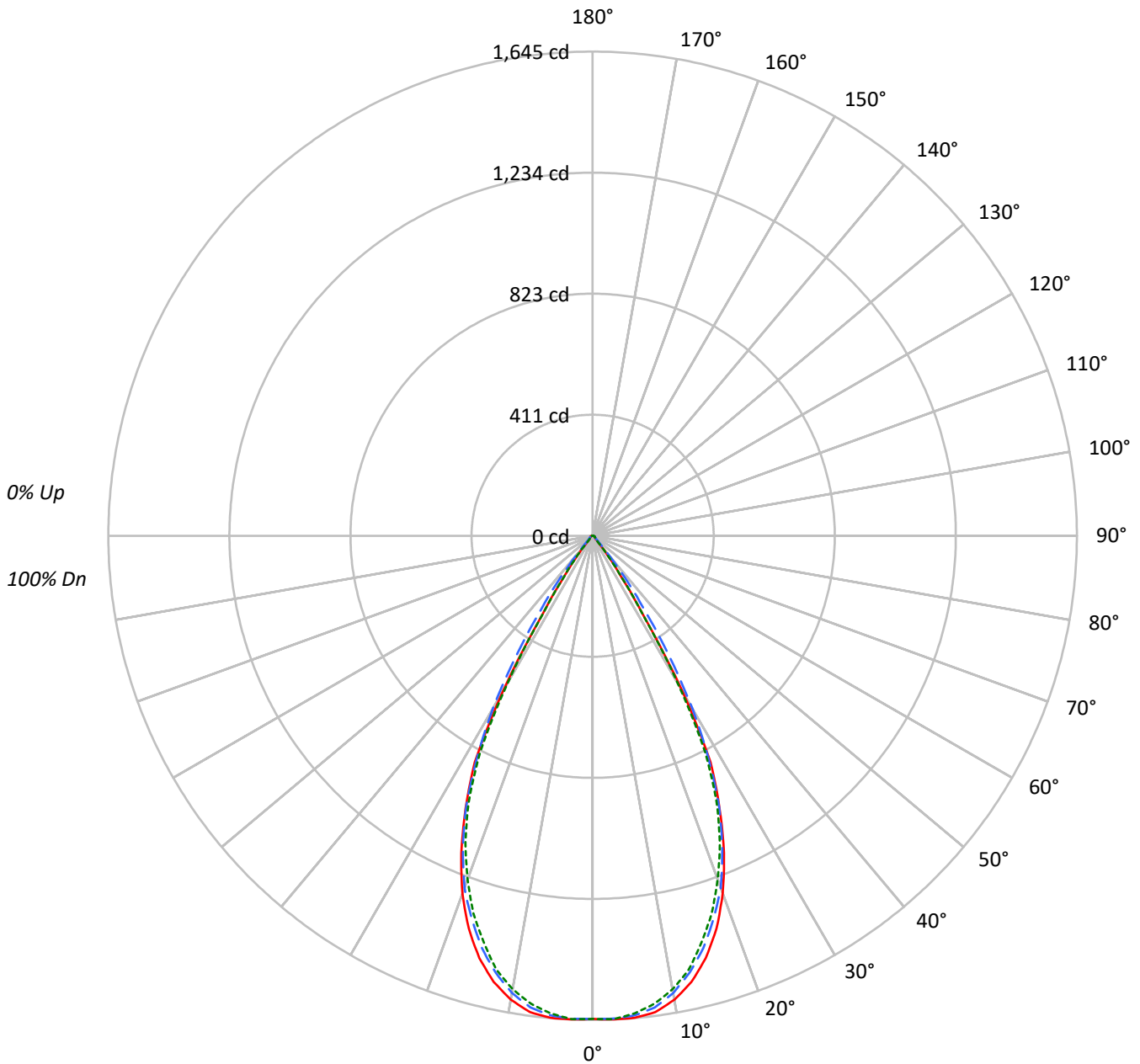
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	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	85	83			
4	99	92	87	83	97	91	86	82	89	85	81	87	83	81	85	82	80	78			
5	95	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74			
6	90	82	77	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70			
7	86	78	72	68	85	77	72	68	76	71	68	75	71	67	74	70	67	66			
8	83	74	68	64	81	73	68	64	72	67	64	71	67	64	70	66	64	62			
9	79	70	65	61	78	70	64	61	69	64	61	68	64	60	67	63	60	59			
10	76	67	61	58	75	66	61	58	66	61	58	65	61	57	64	60	57	56			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	159021	159021	159021
5°	159872	159064	158413
10°	157451	155159	153919
15°	148985	145545	143369
20°	133268	131206	128020
25°	109007	108739	106420
30°	68146	75619	64880
35°	19241	35928	19939
40°	4224	9598	3377
45°	1836	3315	1713
50°	1763	1884	1763
55°	1689	1824	1689
60°	1783	1783	1783
65°	1719	1903	1719
70°	1643	1898	1643
75°	1871	1871	1871
80°	1841	1841	1841
85°	1890	1890	1890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3315 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.5	12.8
10°-20°	404.5	33.4
20°-30°	450.8	37.2
30°-40°	161.0	13.3
40°-50°	15.9	1.3
50°-60°	9.4	0.8
60°-70°	7.8	0.6
70°-80°	5.2	0.4
80°-90°	1.8	0.1
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°	1009.8	83.4
0°-40°	1170.8	96.7
0°-60°	1196.2	98.8
0°-90°	1210.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1210.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1642	1642	1642	1642	1642	
5°	1644	1644	1636	1635	1629	156
15°	1486	1475	1451	1431	1430	413
25°	1020	1026	1017	995	996	455
35°	163	188	304	184	169	133
45°	13	14	24	13	12	12
55°	10	11	11	11	10	9
65°	8	8	8	8	8	7
75°	5	5	5	5	5	5
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1641.5	1641.5	1641.5	1641.5	1641.5
2.5°	1644.9	1645.7	1642.3	1642.3	1644.0
5°	1644.0	1644.0	1635.7	1634.8	1629.0
7.5°	1632.3	1628.2	1616.5	1607.3	1604.0
10°	1600.6	1593.1	1577.3	1562.2	1564.7
12.5°	1552.2	1543.0	1520.5	1507.2	1509.7
15°	1485.5	1474.6	1451.2	1431.2	1429.5
17.5°	1399.5	1387.8	1365.3	1351.1	1345.3
20°	1292.7	1287.7	1272.7	1246.8	1241.8
22.5°	1165.8	1165.8	1150.8	1135.0	1129.1
25°	1019.8	1025.6	1017.3	994.8	995.6
27.5°	867.1	862.9	851.2	836.2	825.3
30°	609.2	670.1	676.0	643.4	580.0
32.5°	317.1	414.8	479.0	388.1	313.8
35°	162.7	187.8	303.8	184.4	168.6
37.5°	84.3	96.8	179.4	96.0	82.6
40°	33.4	45.1	75.9	44.2	26.7
42.5°	15.0	20.9	42.6	18.4	15.0
45°	13.4	14.2	24.2	13.4	12.5
47.5°	12.5	12.5	15.9	12.5	11.7
50°	11.7	11.7	12.5	11.7	11.7
52.5°	10.8	10.8	11.7	10.8	10.8
55°	10.0	10.8	10.8	10.8	10.0
57.5°	9.2	10.0	10.0	10.0	9.2
60°	9.2	9.2	9.2	9.2	9.2
62.5°	8.3	8.3	8.3	8.3	8.3
65°	7.5	8.3	8.3	7.5	7.5
67.5°	6.7	7.5	7.5	7.5	6.7
70°	5.8	6.7	6.7	6.7	5.8
72.5°	5.0	5.8	5.8	5.8	5.0
75°	5.0	5.0	5.0	5.0	5.0
77.5°	4.2	4.2	4.2	4.2	4.2
80°	3.3	3.3	3.3	3.3	3.3
82.5°	2.5	2.5	2.5	2.5	2.5
85°	1.7	1.7	1.7	1.7	1.7
87.5°	0.8	0.8	0.8	0.8	0.8
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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