

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: P886884

Luminaire Tested: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMW-1020LM-5000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886884
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-48)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMW-1020LM-5000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1219.3 lumens
Efficiency: N/A
Efficacy: 69.3 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

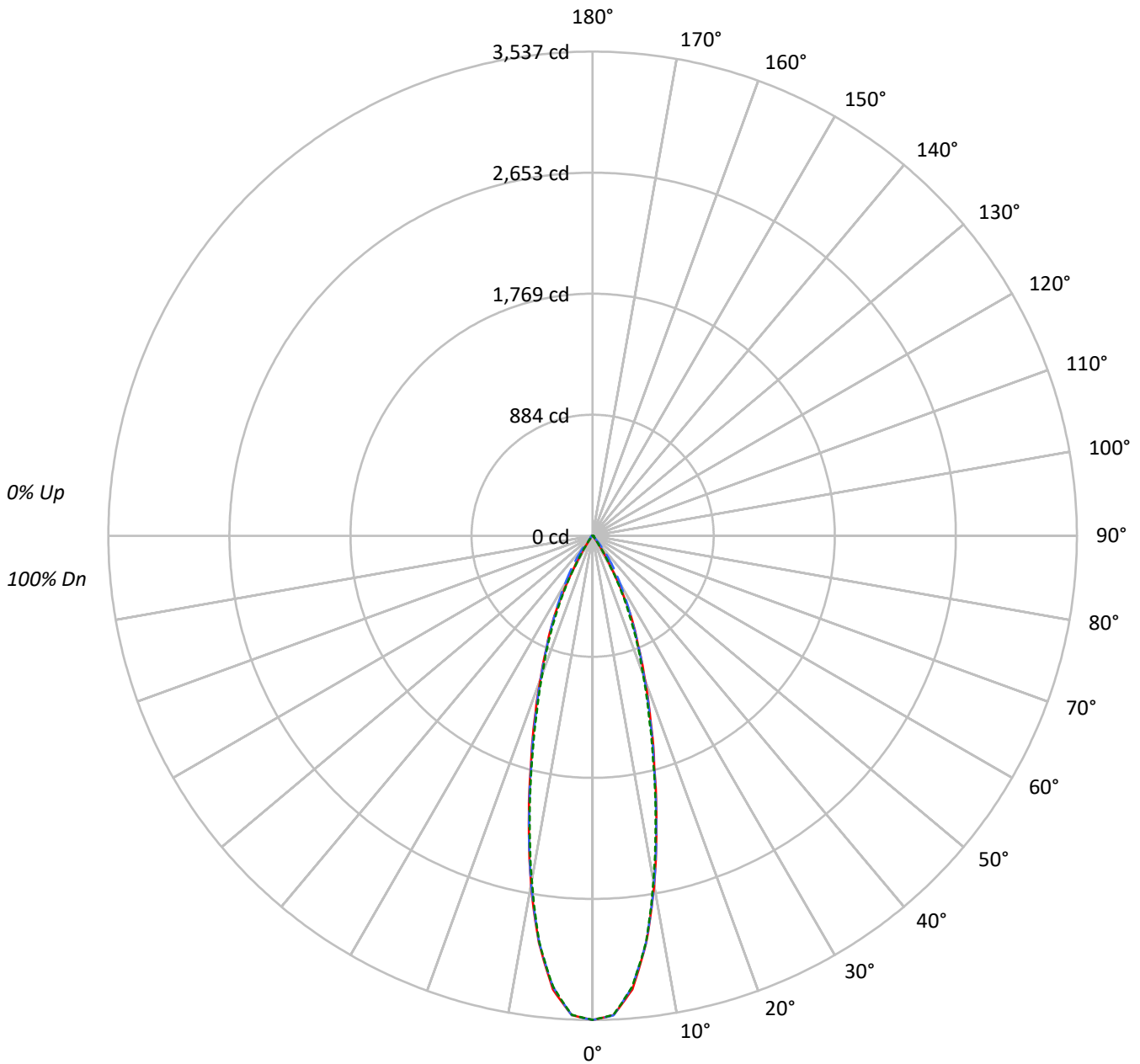
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95																			
2	110	105	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90																			
3	105	100	96	92	104	99	95	92	96	93	90	94	91	89	92	89	88	86																			
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	86	84	82																			
5	98	91	86	82	96	90	85	82	88	84	81	87	83	81	85	82	80	79																			
6	94	87	82	78	93	86	81	78	85	81	78	83	80	77	82	79	77	75																			
7	91	83	78	75	89	82	78	75	81	77	74	80	77	74	79	76	73	72																			
8	87	80	75	72	86	79	75	71	78	74	71	77	74	71	76	73	71	69																			
9	85	77	72	69	84	76	72	69	75	71	68	75	71	68	74	70	68	67																			
10	82	74	69	66	81	74	69	66	73	69	66	72	68	66	71	68	65	64																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	342619	342619	342619
5°	323448	321756	321669
10°	254719	254089	251758
15°	174650	173376	171641
20°	114763	113268	110629
25°	73487	72407	67245
30°	31612	44365	28458
35°	8740	24480	8302
40°	3111	8991	2997
45°	2370	3247	2247
50°	2200	2472	2065
55°	2162	2314	2162
60°	2112	2306	2112
65°	2086	2292	2086
70°	2068	2323	2068
75°	2059	2396	2059
80°	2008	2566	2008
85°	2001	2001	2001

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3247 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.7	24.0
10°-20°	481.8	39.5
20°-30°	308.0	25.3
30°-40°	89.9	7.4
40°-50°	16.8	1.4
50°-60°	11.7	1.0
60°-70°	9.7	0.8
70°-80°	6.5	0.5
80°-90°	2.1	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°	1082.6	88.8
0°-40°	1172.4	96.2
0°-60°	1201.0	98.5
0°-90°	1219.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1219.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3537	3537	3537	3537	3537	
5°	3326	3322	3309	3310	3308	293
15°	1741	1735	1729	1717	1711	486
25°	688	684	677	661	629	306
35°	74	118	207	108	70	63
45°	17	18	24	18	16	14
55°	13	13	14	13	13	11
65°	9	10	10	10	9	9
75°	6	6	6	6	6	6
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°	3536.7	3536.7	3536.7	3536.7	3536.7
2.5°	3504.8	3508.4	3506.6	3496.6	3502.0
5°	3326.1	3322.4	3308.7	3309.6	3307.8
7.5°	2999.7	2998.7	2994.2	2996.0	2990.5
10°	2589.4	2607.6	2583.0	2583.0	2559.3
12.5°	2153.5	2158.1	2147.2	2134.4	2123.5
15°	1741.4	1735.1	1728.7	1716.8	1711.4
17.5°	1407.7	1406.8	1391.3	1376.7	1356.7
20°	1113.2	1110.5	1098.7	1093.2	1073.1
22.5°	873.5	884.4	871.6	850.7	845.2
25°	687.5	683.8	677.4	661.0	629.1
27.5°	476.8	515.1	522.4	492.3	442.2
30°	282.6	342.8	396.6	327.3	254.4
32.5°	158.6	211.5	299.1	196.9	136.8
35°	73.9	117.6	207.0	108.5	70.2
37.5°	33.7	57.4	125.8	56.5	36.5
40°	24.6	29.2	71.1	31.0	23.7
42.5°	20.1	21.9	40.1	21.9	19.1
45°	17.3	18.2	23.7	18.2	16.4
47.5°	14.6	16.4	18.2	15.5	14.6
50°	14.6	14.6	16.4	14.6	13.7
52.5°	13.7	13.7	14.6	13.7	13.7
55°	12.8	12.8	13.7	12.8	12.8
57.5°	11.9	11.9	12.8	11.9	11.9
60°	10.9	11.9	11.9	10.9	10.9
62.5°	10.0	10.9	10.9	10.9	10.0
65°	9.1	10.0	10.0	10.0	9.1
67.5°	8.2	9.1	9.1	9.1	8.2
70°	7.3	8.2	8.2	8.2	7.3
72.5°	6.4	7.3	7.3	7.3	6.4
75°	5.5	6.4	6.4	6.4	5.5
77.5°	4.6	5.5	5.5	5.5	4.6
80°	3.6	4.6	4.6	4.6	3.6
82.5°	2.7	2.7	2.7	3.6	2.7
85°	1.8	1.8	1.8	1.8	1.8
87.5°	0.9	0.9	0.9	0.9	0.9
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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