

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: P886879

Luminaire Tested: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMB-1020LM-5000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886879
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-50)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMB-1020LM-5000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

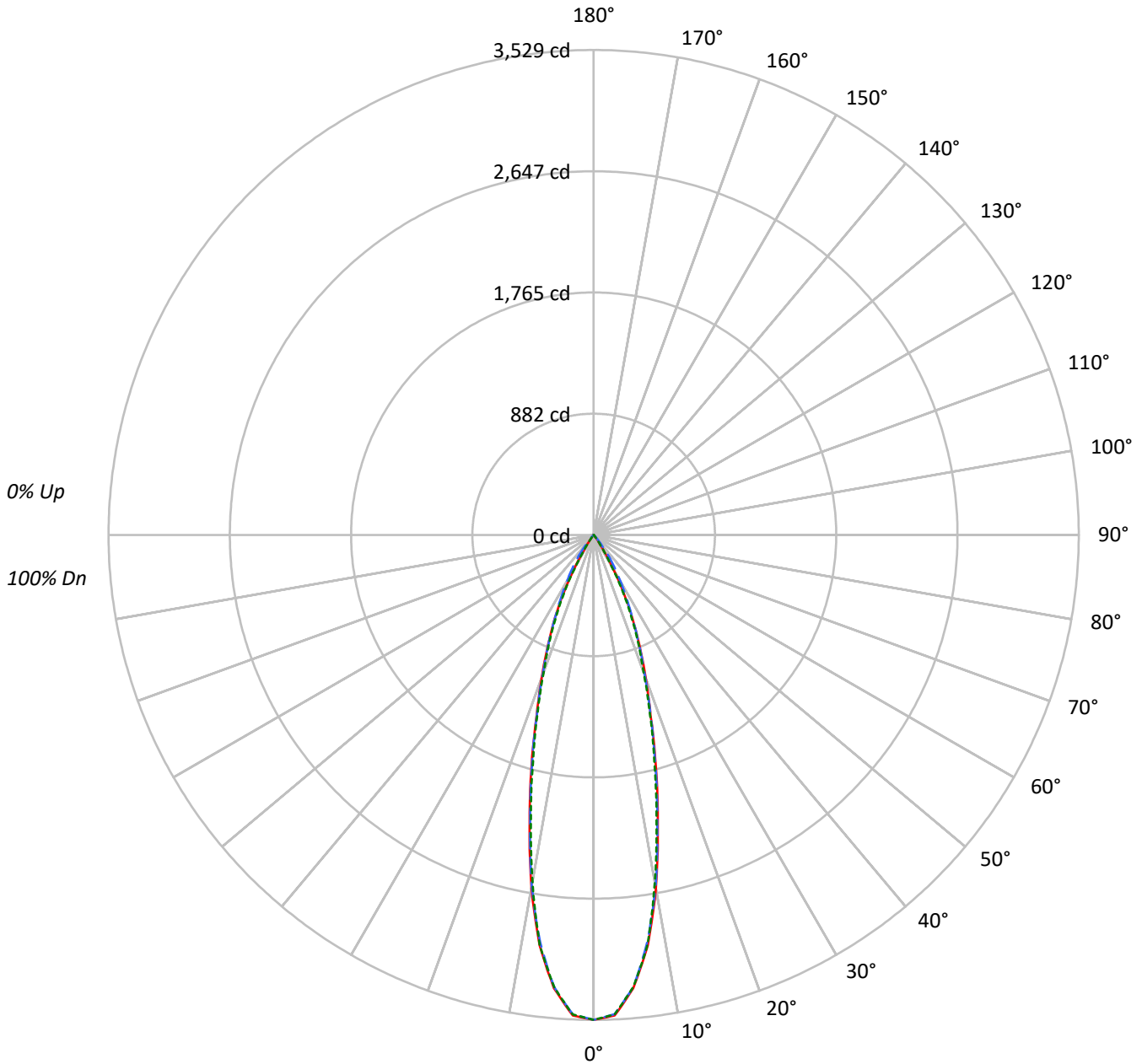
Lumens per Lamp: N/A
Luminaire Lumens: 1161.8 lumens
Efficiency: N/A
Efficacy: 66.0 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (A_{in}): 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	115	112	110	108	112	110	108	107	106	105	103	103	101	100	99	98	98	96																			
2	110	106	103	101	108	105	102	99	102	99	97	99	97	95	96	95	93	92																			
3	106	101	97	94	105	100	96	93	97	94	92	95	93	91	93	91	89	88																			
4	103	97	92	89	101	96	92	88	94	90	87	92	89	86	90	88	86	84																			
5	99	92	88	85	98	92	87	84	90	86	83	88	85	83	87	84	82	81																			
6	95	89	84	81	94	88	83	80	86	83	80	85	82	79	84	81	79	78																			
7	92	85	80	77	91	84	80	77	83	79	77	82	79	76	81	78	76	75																			
8	89	82	77	74	88	81	77	74	80	76	74	79	76	73	79	75	73	72																			
9	86	79	74	71	85	78	74	71	77	74	71	77	73	71	76	73	70	69																			
10	83	76	71	68	83	76	71	68	75	71	68	74	71	68	74	70	68	67																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	341873	341873	341873
5°	321970	321163	321075
10°	256745	255132	252348
15°	175452	173627	171059
20°	113742	112144	109041
25°	71018	70719	67309
30°	30315	43279	27261
35°	7119	23641	6694
40°	1151	7158	1151
45°	370	1370	247
50°	0	271	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1370 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.3	25.2
10°-20°	478.9	41.2
20°-30°	302.9	26.1
30°-40°	81.8	7.0
40°-50°	5.8	0.5
50°-60°	0.1	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	0.0	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°	1074.1	92.4
0°-40°	1155.9	99.5
0°-60°	1161.8	100.0
0°-90°	1161.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1161.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3529	3529	3529	3529	3529	
5°	3311	3307	3303	3305	3302	294
15°	1749	1738	1731	1700	1706	484
25°	664	670	662	654	630	299
35°	60	105	200	94	57	54
45°	3	4	10	4	2	2
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3529.0	3529.0	3529.0	3529.0	3529.0
2.5°	3499.8	3497.0	3490.6	3494.3	3492.5
5°	3310.9	3307.2	3302.6	3305.4	3301.7
7.5°	3013.4	2996.0	2987.8	2990.5	3007.0
10°	2610.0	2584.4	2593.6	2556.1	2565.3
12.5°	2152.8	2141.8	2138.2	2130.9	2108.1
15°	1749.4	1738.5	1731.2	1700.1	1705.6
17.5°	1377.1	1388.0	1376.2	1364.3	1355.2
20°	1103.3	1094.2	1087.8	1073.2	1057.7
22.5°	867.9	865.1	858.7	842.3	837.8
25°	664.4	669.8	661.6	654.3	629.7
27.5°	460.9	506.5	512.0	486.4	435.3
30°	271.0	331.3	386.9	320.3	243.7
32.5°	141.5	198.0	287.5	186.2	122.3
35°	60.2	104.9	199.9	94.0	56.6
37.5°	19.2	45.6	113.2	41.1	20.1
40°	9.1	14.6	56.6	15.5	9.1
42.5°	4.6	7.3	27.4	7.3	4.6
45°	2.7	3.7	10.0	3.7	1.8
47.5°	0.9	1.8	3.7	1.8	0.9
50°	0.0	0.9	1.8	0.9	0.0
52.5°	0.0	0.0	0.9	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
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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