

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: P887124

Luminaire Tested: ML412LSFLD2W1E-TIR4D55WFL-TL4SDMW-600LM-2700K

Issue Date: 7/10/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P887124  
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: ML412LSFLD2W1E-TIR4D55WFL-TL4SDMW-600LM-2700K  
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM  
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

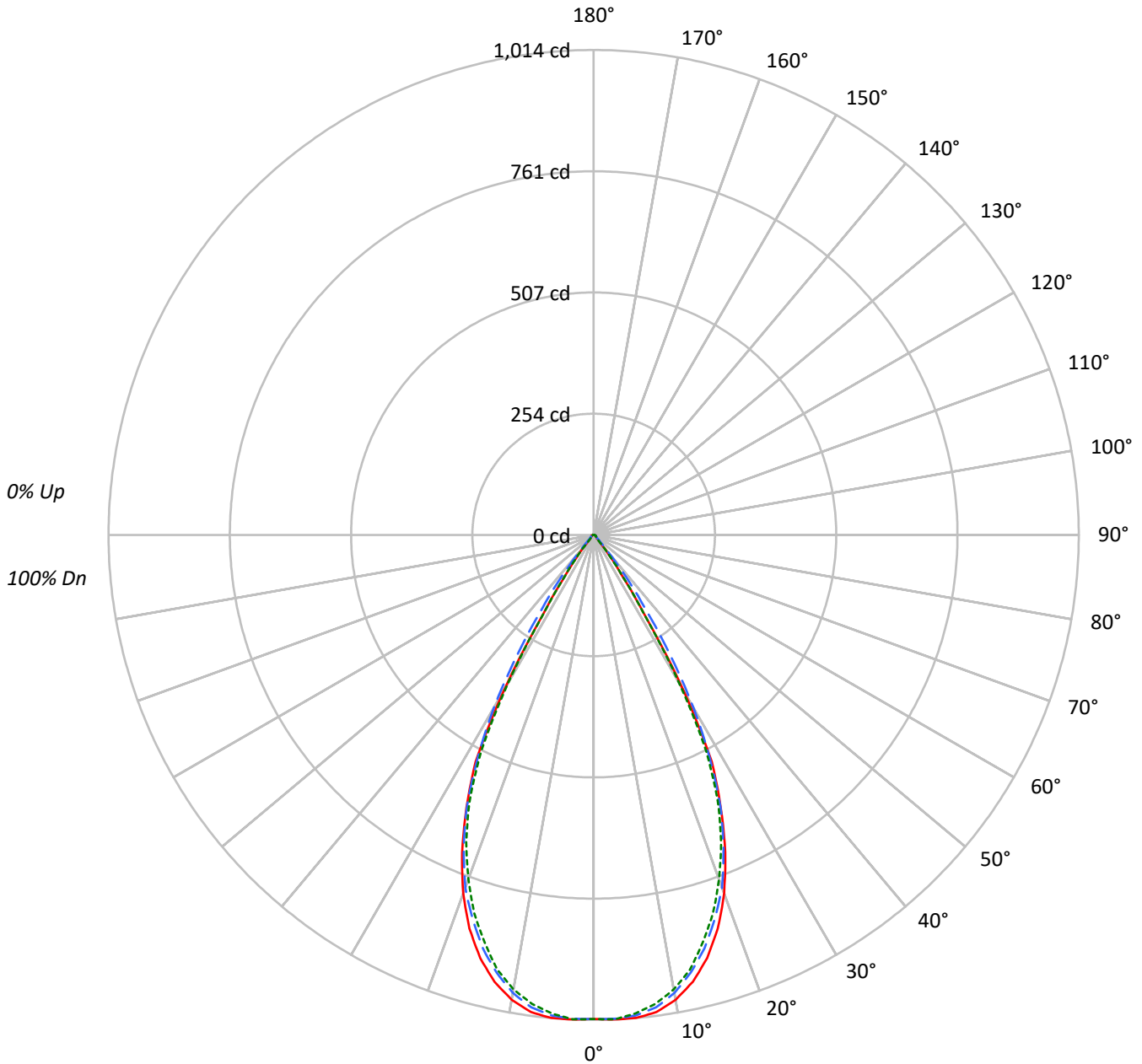
Lumens per Lamp: N/A  
Luminaire Lumens: 746.6 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 0.89 / 0.88 / 0.83  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 9.4  
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	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°	98048	98048	98048
5°	98568	98072	97664
10°	97081	95655	94897
15°	91848	89742	88398
20°	82165	80887	78928
25°	67202	67042	65609
30°	42015	46624	40002
35°	11862	22151	12288
40°	2605	5918	2087
45°	1123	2041	1055
50°	1085	1160	1085
55°	1047	1132	1047
60°	1104	1104	1104
65°	1054	1169	1054
70°	1020	1161	1020
75°	1160	1160	1160
80°	1172	1172	1172
85°	1112	1112	1112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 2041 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.2	12.8
10°-20°	249.4	33.4
20°-30°	277.9	37.2
30°-40°	99.3	13.3
40°-50°	9.8	1.3
50°-60°	5.8	0.8
60°-70°	4.8	0.6
70°-80°	3.2	0.4
80°-90°	1.1	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°	622.6	83.4
0°-40°	721.9	96.7
0°-60°	737.5	98.8
0°-90°	746.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	746.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1012	1012	1012	1012	1012	
5°	1014	1014	1008	1008	1004	96
15°	916	909	895	882	881	254
25°	629	632	627	613	614	280
35°	100	116	187	114	104	82
45°	8	9	15	8	8	7
55°	6	7	7	7	6	6
65°	5	5	5	5	5	5
75°	3	3	3	3	3	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°	1012.1	1012.1	1012.1	1012.1	1012.1
2.5°	1014.1	1014.6	1012.6	1012.6	1013.6
5°	1013.6	1013.6	1008.5	1007.9	1004.3
7.5°	1006.4	1003.8	996.6	991.0	988.9
10°	986.9	982.2	972.4	963.2	964.7
12.5°	957.0	951.3	937.5	929.2	930.8
15°	915.8	909.2	894.8	882.4	881.4
17.5°	862.9	855.6	841.8	833.0	829.4
20°	797.0	793.9	784.6	768.7	765.6
22.5°	718.8	718.8	709.5	699.7	696.1
25°	628.7	632.3	627.2	613.3	613.8
27.5°	534.6	532.0	524.8	515.5	508.9
30°	375.6	413.2	416.8	396.7	357.6
32.5°	195.5	255.7	295.3	239.3	193.5
35°	100.3	115.8	187.3	113.7	103.9
37.5°	52.0	59.7	110.6	59.2	50.9
40°	20.6	27.8	46.8	27.3	16.5
42.5°	9.3	12.9	26.2	11.3	9.3
45°	8.2	8.7	14.9	8.2	7.7
47.5°	7.7	7.7	9.8	7.7	7.2
50°	7.2	7.2	7.7	7.2	7.2
52.5°	6.7	6.7	7.2	6.7	6.7
55°	6.2	6.7	6.7	6.7	6.2
57.5°	5.7	6.2	6.2	6.2	5.7
60°	5.7	5.7	5.7	5.7	5.7
62.5°	5.1	5.1	5.1	5.1	5.1
65°	4.6	5.1	5.1	4.6	4.6
67.5°	4.1	4.6	4.6	4.6	4.1
70°	3.6	4.1	4.1	4.1	3.6
72.5°	3.1	3.6	3.6	3.6	3.1
75°	3.1	3.1	3.1	3.1	3.1
77.5°	2.6	2.6	2.6	2.6	2.6
80°	2.1	2.1	2.1	2.1	2.1
82.5°	1.5	1.5	1.5	1.5	1.5
85°	1.0	1.0	1.0	1.0	1.0
87.5°	0.5	0.5	0.5	0.5	0.5
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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