

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: P886768

Luminaire Tested: ML310LSFL9FS1E-TIR4D55WFL-TL3SDSL-1000LM-3000K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886768  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-20)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/8/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D55WFL-TL3SDSL-1000LM-3000K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1230.2 lumens  
Efficiency: N/A  
Efficacy: 89.1 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.84 / 0.81  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

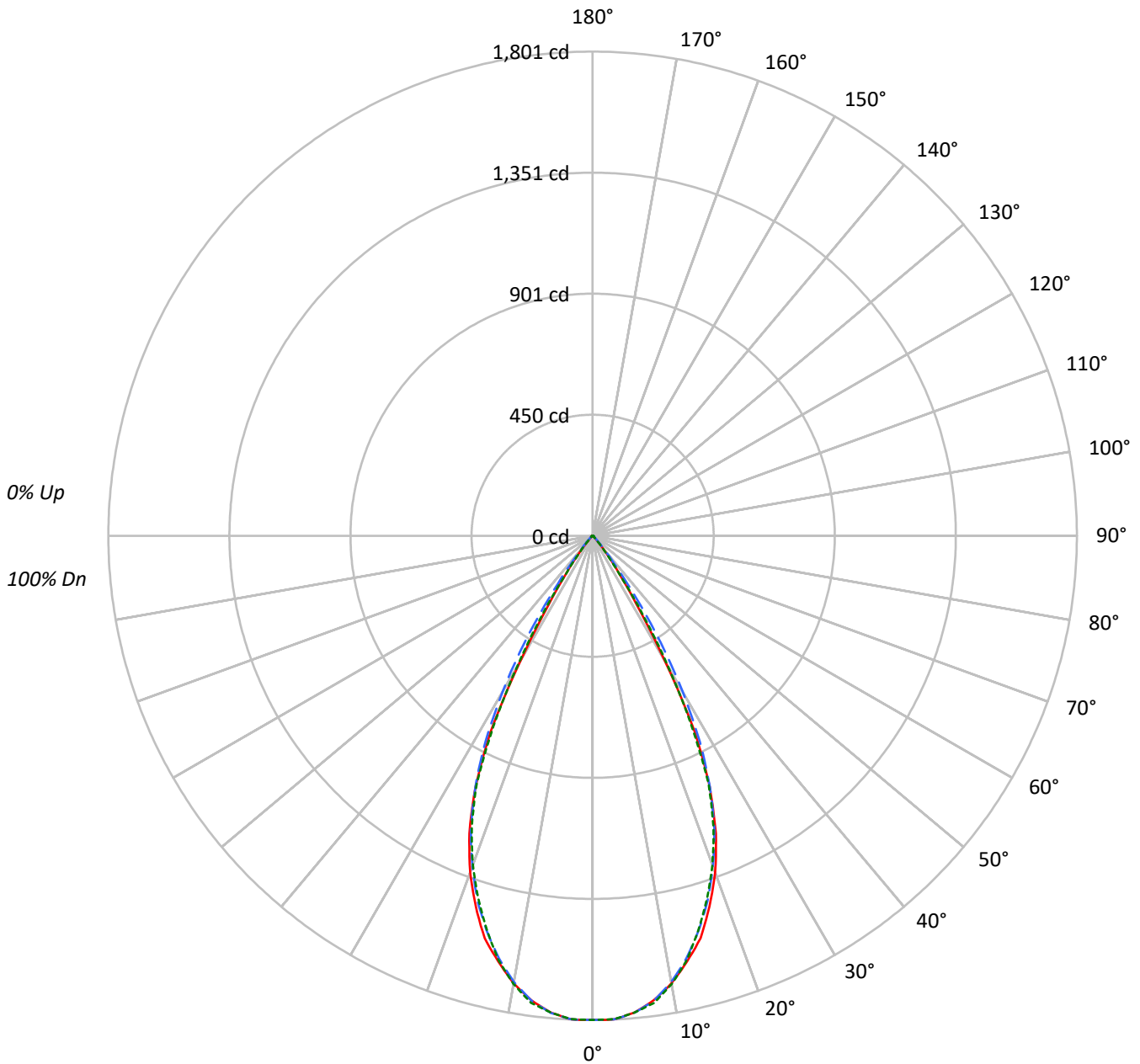
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	94								
2	109	104	101	98	107	103	99	97	100	97	94	97	94	92	94	92	91	89								
3	104	98	94	90	102	97	93	89	94	91	88	92	89	87	90	87	85	84								
4	100	93	88	84	98	92	87	83	90	86	82	88	84	81	86	83	81	79								
5	95	88	82	78	94	87	82	78	85	81	77	83	80	77	82	79	76	75								
6	91	83	78	74	90	82	77	73	81	76	73	79	76	73	78	75	72	71								
7	87	79	73	69	86	78	73	69	77	72	69	76	72	69	75	71	68	67								
8	83	75	69	66	82	74	69	66	73	69	65	72	68	65	71	68	65	64								
9	80	71	66	62	79	71	66	62	70	65	62	69	65	62	68	64	62	60								
10	77	68	63	59	76	67	62	59	67	62	59	66	62	59	65	61	59	57								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	310173	310173	310173
5°	307779	307952	307779
10°	295581	294672	296123
15°	276415	271245	270692
20°	244086	239541	238588
25°	195613	196203	193846
30°	106075	132842	111007
35°	36583	58133	35700
40°	9308	15130	8139
45°	2265	5553	2533
50°	1661	2224	1929
55°	1862	1862	1862
60°	1791	1791	1791
65°	1263	1671	1671
70°	1561	1561	1561
75°	1397	2063	2063
80°	992	2083	2083
85°	1976	1976	1976

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 5553 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.1	13.6
10°-20°	424.9	34.5
20°-30°	456.9	37.1
30°-40°	153.3	12.5
40°-50°	14.7	1.2
50°-60°	5.5	0.4
60°-70°	4.1	0.3
70°-80°	2.7	0.2
80°-90°	0.9	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°	1049.0	85.3
0°-40°	1202.3	97.7
0°-60°	1222.5	99.4
0°-90°	1230.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1230.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1801	1801	1801	1801	1801	
5°	1780	1780	1781	1781	1780	167
15°	1550	1535	1521	1522	1518	429
25°	1029	1044	1032	1038	1020	450
35°	174	179	276	184	170	128
45°	9	11	23	12	10	11
55°	6	6	6	6	6	5
65°	3	4	4	4	4	4
75°	2	2	3	3	3	2
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°	1801.0	1801.0	1801.0	1801.0	1801.0
2.5°	1801.0	1799.9	1801.0	1801.0	1799.9
5°	1780.3	1780.3	1781.3	1781.3	1780.3
7.5°	1743.0	1743.0	1744.0	1750.2	1752.3
10°	1690.2	1687.0	1685.0	1689.1	1693.3
12.5°	1621.8	1619.7	1610.4	1609.4	1616.6
15°	1550.3	1534.8	1521.3	1522.4	1518.2
17.5°	1445.7	1439.5	1423.0	1423.0	1414.7
20°	1331.8	1318.4	1307.0	1308.0	1301.8
22.5°	1198.2	1198.2	1183.7	1192.0	1174.4
25°	1029.4	1043.9	1032.5	1037.7	1020.1
27.5°	823.3	848.2	862.7	851.3	798.5
30°	533.4	622.4	668.0	612.1	558.2
32.5°	302.4	359.4	471.2	373.9	346.9
35°	174.0	179.2	276.5	184.3	169.8
37.5°	90.1	95.3	138.8	92.2	86.0
40°	41.4	47.6	67.3	47.6	36.2
42.5°	16.6	25.9	38.3	20.7	16.6
45°	9.3	11.4	22.8	12.4	10.4
47.5°	8.3	8.3	13.5	9.3	8.3
50°	6.2	7.2	8.3	7.2	7.2
52.5°	6.2	6.2	7.2	6.2	6.2
55°	6.2	6.2	6.2	6.2	6.2
57.5°	5.2	5.2	6.2	6.2	5.2
60°	5.2	5.2	5.2	5.2	5.2
62.5°	4.1	4.1	5.2	5.2	5.2
65°	3.1	4.1	4.1	4.1	4.1
67.5°	3.1	3.1	4.1	4.1	4.1
70°	3.1	3.1	3.1	3.1	3.1
72.5°	2.1	3.1	3.1	3.1	3.1
75°	2.1	2.1	3.1	3.1	3.1
77.5°	1.0	2.1	2.1	2.1	2.1
80°	1.0	1.0	2.1	2.1	2.1
82.5°	1.0	1.0	1.0	1.0	1.0
85°	1.0	1.0	1.0	1.0	1.0
87.5°	0.0	0.0	0.0	1.0	1.0
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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