

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: P886759

Luminaire Tested: ML310LSFL9FS1E-TIR4D55WFL-TL3SDMB-1000LM-3500K

Issue Date: 7/8/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886759  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-21)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/8/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML310LSFL9FS1E-TIR4D55WFL-TL3SDMB-1000LM-3500K  
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1214.7 lumens  
Efficiency: N/A  
Efficacy: 88.0 lumens/watt  
Spacing Criteria (0/90/45): 0.87 / 0.86 / 0.82  
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')  
CIE Type: Direct

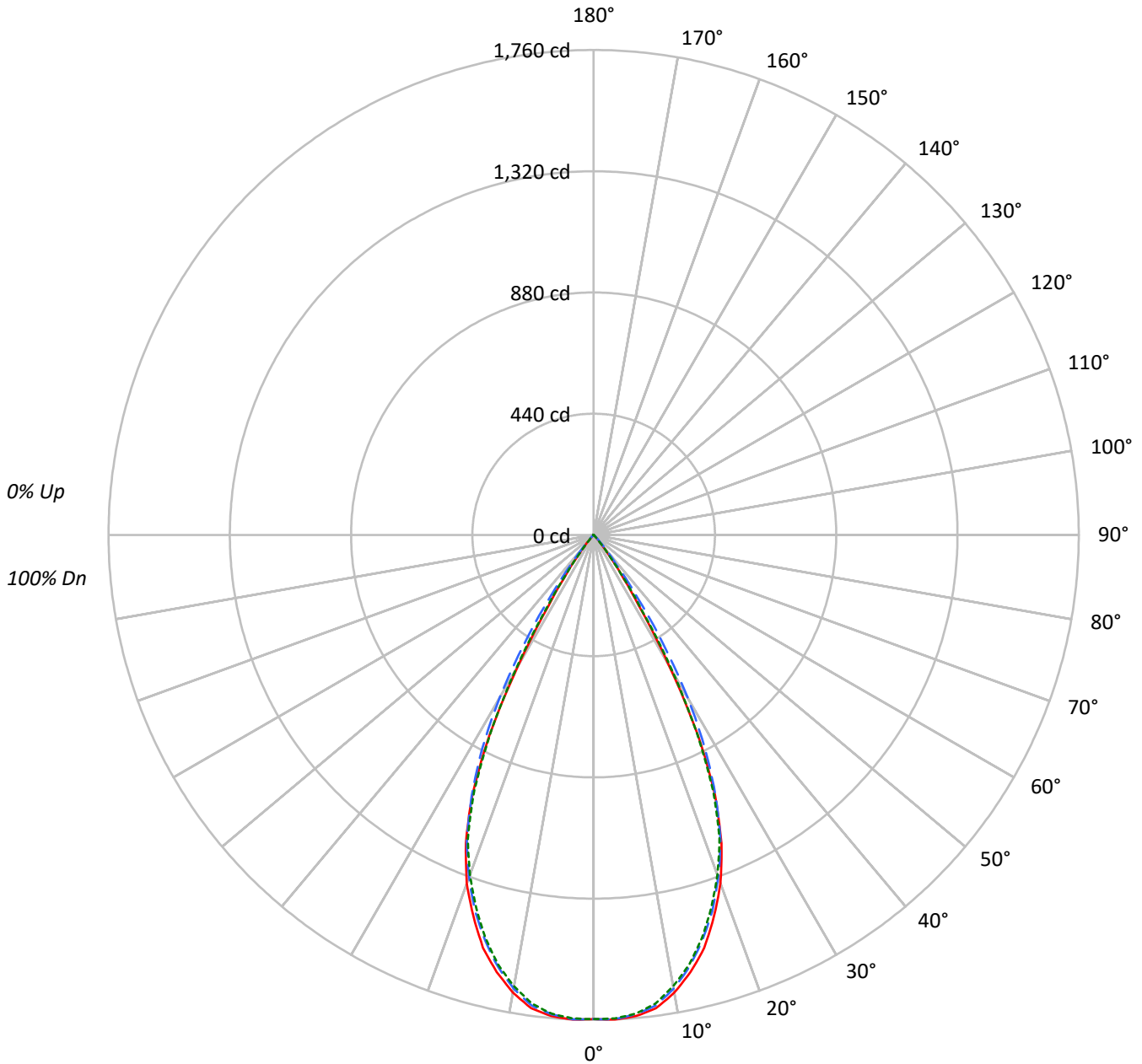
Input Watts (W): 13.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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									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	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95																			
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	89																			
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84																			
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	84	81	80																			
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75																			
6	92	84	78	74	90	83	78	74	81	77	74	80	76	73	79	75	73	71																			
7	88	79	74	70	86	79	74	70	77	73	70	76	72	69	75	72	69	68																			
8	84	75	70	66	83	75	70	66	74	69	66	73	69	66	72	68	65	64																			
9	80	72	66	63	79	71	66	63	70	66	63	70	65	62	69	65	62	61																			
10	77	68	63	60	76	68	63	60	67	63	60	67	62	59	66	62	59	58																			

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

	0°	45°	90°
0°	302630	302630	302630
5°	303060	301936	301573
10°	294969	292346	290842
15°	276505	271548	270211
20°	246597	242272	240512
25°	197951	198977	194701
30°	108262	135706	114010
35°	34859	57796	35763
40°	8183	14186	6722
45°	779	4165	779
50°	295	857	295
55°	0	330	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: 4165 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.6	13.6
10°-20°	425.3	35.0
20°-30°	461.5	38.0
30°-40°	152.8	12.6
40°-50°	10.1	0.8
50°-60°	0.4	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°	1051.4	86.6
0°-40°	1204.2	99.1
0°-60°	1214.7	100.0
0°-90°	1214.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1214.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1757	1757	1757	1757	1757	
5°	1753	1751	1746	1746	1744	165
15°	1551	1541	1523	1519	1516	430
25°	1042	1051	1047	1040	1025	454
35°	166	183	275	185	170	126
45°	3	5	17	5	3	6
55°	0	0	1	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°	1757.2	1757.2	1757.2	1757.2	1757.2
2.5°	1760.5	1760.5	1759.4	1758.3	1756.2
5°	1753.0	1750.8	1746.5	1745.5	1744.4
7.5°	1732.6	1730.5	1723.0	1715.5	1715.5
10°	1686.7	1685.6	1671.7	1667.4	1663.1
12.5°	1624.6	1620.3	1605.4	1600.0	1597.9
15°	1550.8	1541.2	1523.0	1518.7	1515.5
17.5°	1451.4	1447.1	1431.0	1423.5	1418.2
20°	1345.5	1335.8	1321.9	1316.6	1312.3
22.5°	1211.8	1206.4	1202.2	1198.9	1192.5
25°	1041.7	1051.4	1047.1	1039.6	1024.6
27.5°	820.3	861.0	875.9	853.5	810.7
30°	544.4	630.0	682.4	617.1	573.3
32.5°	303.7	356.2	471.7	377.5	333.7
35°	165.8	182.9	274.9	185.0	170.1
37.5°	80.2	93.0	136.9	88.8	81.3
40°	36.4	43.9	63.1	41.7	29.9
42.5°	10.7	19.3	33.2	15.0	9.6
45°	3.2	5.3	17.1	5.3	3.2
47.5°	2.1	2.1	7.5	2.1	2.1
50°	1.1	1.1	3.2	1.1	1.1
52.5°	0.0	1.1	1.1	1.1	1.1
55°	0.0	0.0	1.1	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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