

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: P640333

Luminaire Tested: ML5609LSFL40D2W1E - 693SNB - 900LM - 2700K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640333  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-42)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5609LSFL40D2W1E - 693SNB - 900LM - 2700K  
Description: ML56 RR, 40D TIR OPTIC, 6" SATIN NICKLE BAFFLE TRIM  
Light Source: (1) D2W SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

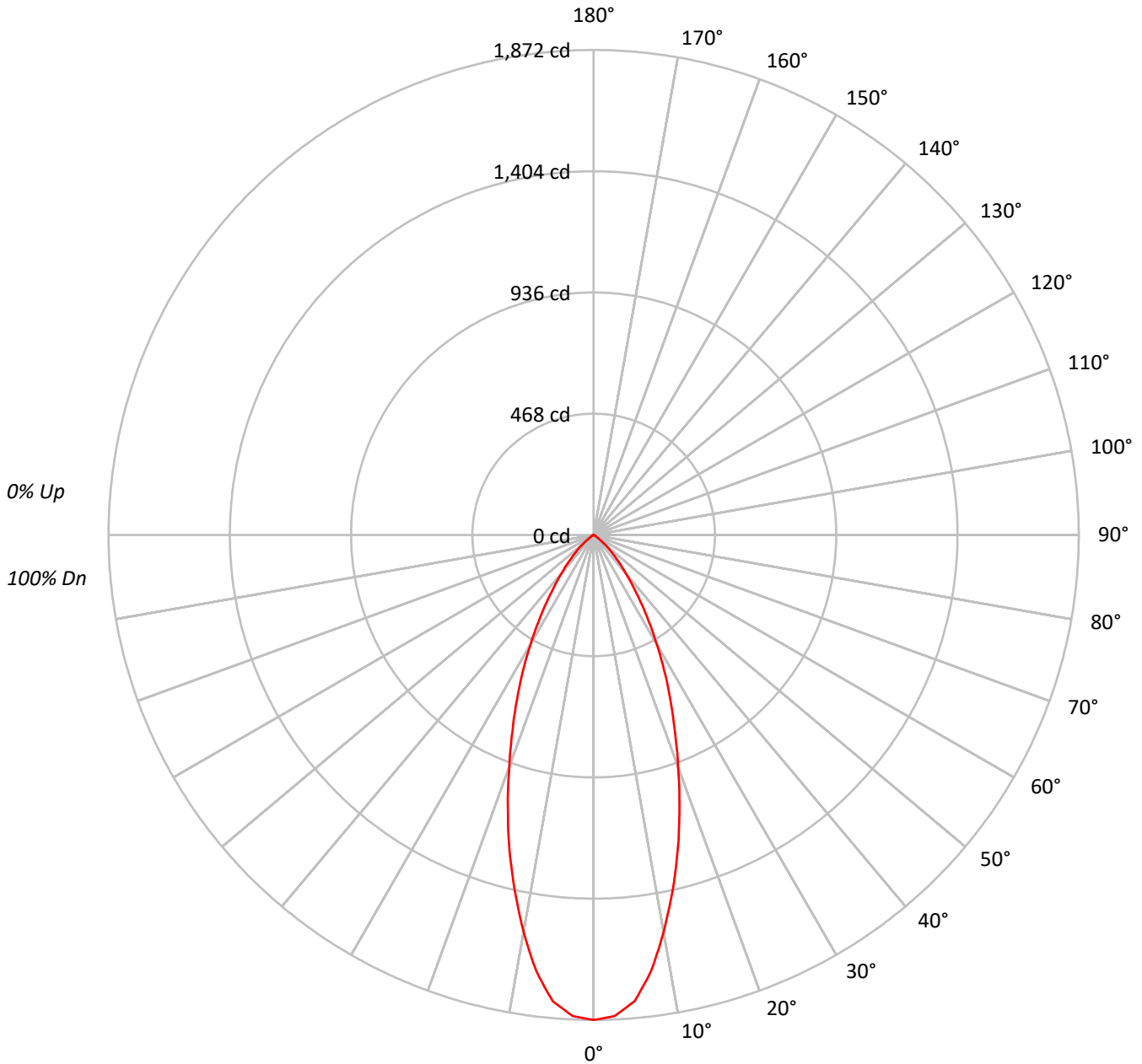
Lumens per Lamp: N/A  
Luminaire Lumens: 1142.7 lumens  
Efficiency: N/A  
Efficacy: 96.8 lumens/watt  
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.7  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.8  
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									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	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	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94																												
2	108	104	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88																												
3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	86	83	82																												
4	98	91	85	81	96	90	85	81	87	83	80	85	82	79	84	80	78	76																												
5	93	85	80	75	92	84	79	75	82	78	74	81	77	74	79	76	73	72																												
6	89	80	74	70	87	79	74	70	78	73	70	77	72	69	75	72	69	67																												
7	85	76	70	66	83	75	70	66	74	69	65	73	68	65	72	68	65	63																												
8	81	72	66	62	80	71	66	62	70	65	62	69	65	61	68	64	61	60																												
9	77	68	62	58	76	67	62	58	67	62	58	66	61	58	65	61	58	56																												
10	74	65	59	55	73	64	59	55	63	58	55	63	58	55	62	58	55	53																												

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

	0°
0°	102629
5°	99427
10°	86594
15°	71232
20°	55573
25°	42305
30°	30790
35°	21114
40°	13661
45°	8412
50°	4546
55°	1730
60°	1096
65°	389
70°	0
75°	0
80°	0
85°	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8412 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.2	14.4
10°-20°	346.8	30.3
20°-30°	320.7	28.1
30°-40°	200.0	17.5
40°-50°	87.4	7.6
50°-60°	20.1	1.8
60°-70°	3.7	0.3
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°	831.6	72.8
0°-40°	1031.6	90.3
0°-60°	1139.1	99.7
0°-90°	1142.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1142.7	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	1872	
5°	1807	164
15°	1255	347
25°	699	321
35°	316	200
45°	108	87
55°	18	20
65°	3	4
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	1872.1
2.5°	1859.1
5°	1806.8
7.5°	1698.3
10°	1555.6
12.5°	1405.8
15°	1255.1
17.5°	1101.4
20°	952.6
22.5°	818.0
25°	699.4
27.5°	588.9
30°	486.4
32.5°	394.9
35°	315.5
37.5°	247.2
40°	190.9
42.5°	147.7
45°	108.5
47.5°	80.4
50°	53.3
52.5°	27.1
55°	18.1
57.5°	14.1
60°	10.0
62.5°	6.0
65°	3.0
67.5°	1.0
70°	0.0
72.5°	0.0
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180°

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(END OF REPORT)