

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: P640332

Luminaire Tested: ML5609LSFL40D2W1E - 693BB - 900LM - 3000K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640332  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-41)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5609LSFL40D2W1E - 693BB - 900LM - 3000K  
Description: ML56 RR, 40D TIR OPTIC, 6" BLACK BAFFLE TRIM  
Light Source: (1) D2W SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

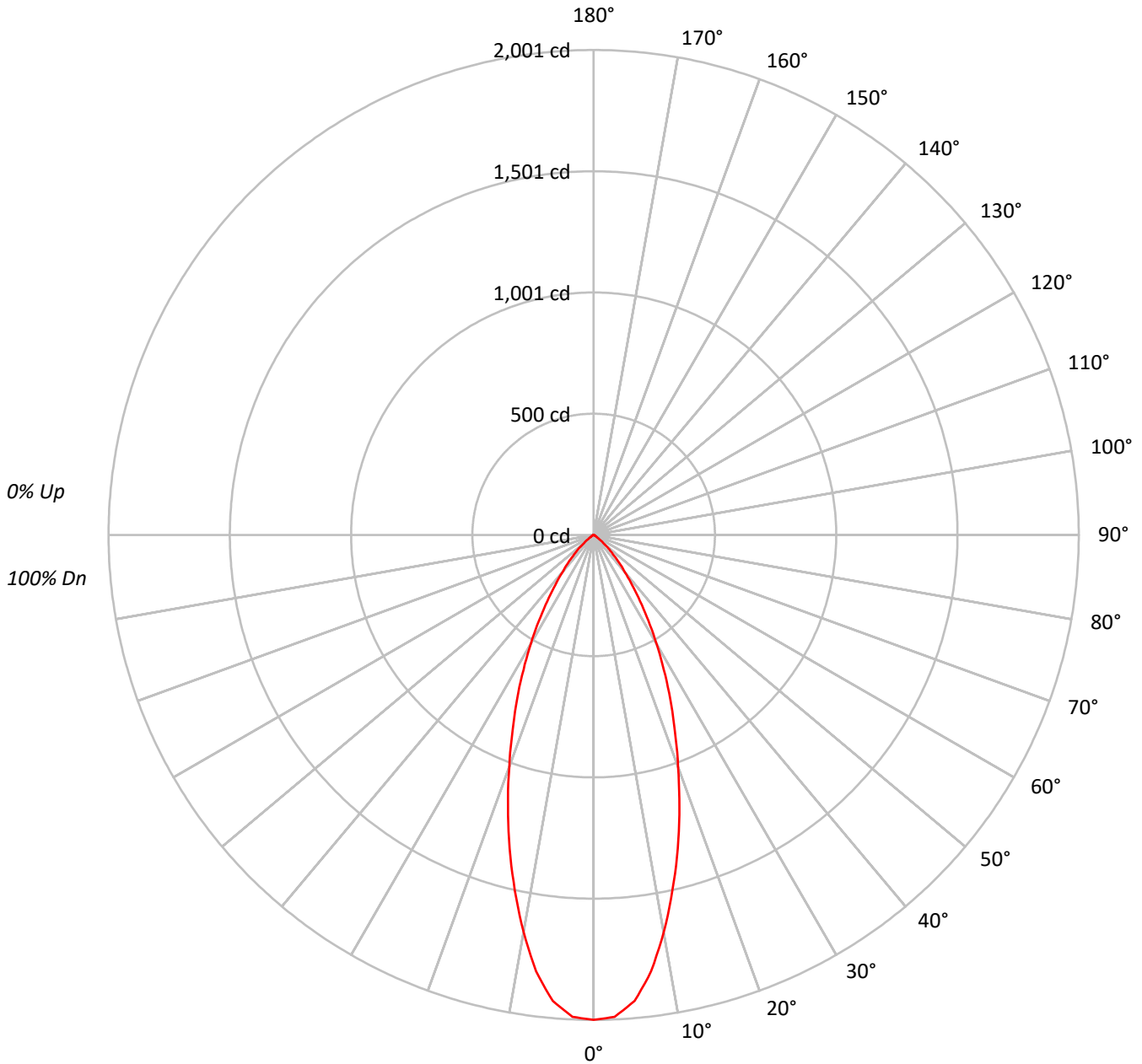
Lumens per Lamp: N/A  
Luminaire Lumens: 1213.6 lumens  
Efficiency: N/A  
Efficacy: 102.8 lumens/watt  
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.69  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

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



TEST NUMBER: P640332  
CATALOG NUMBER: ML5609LSFL40D2W1E - 693BB - 900LM - 3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P640332

CATALOG NUMBER: ML5609LSFL40D2W1E - 693BB - 900LM - 3000K

**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	106	111	109	107	105	105	103	102	101	100	99	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	88	83	80	86	82	79	84	81	78	77																			
5	93	85	80	76	92	84	79	75	83	78	75	81	77	74	79	76	73	72																			
6	89	80	75	70	88	80	74	70	78	73	70	77	73	69	75	72	69	67																			
7	85	76	70	66	84	75	70	66	74	69	66	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	59	76	68	62	59	67	62	58	66	61	58	65	61	58	57																			
10	74	65	59	55	73	64	59	55	64	59	55	63	58	55	62	58	55	54																			

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

	0°
0°	109690
5°	106251
10°	92656
15°	75994
20°	59371
25°	45124
30°	32758
35°	22292
40°	14348
45°	8776
50°	4409
55°	1749
60°	1064
65°	415
70°	0
75°	0
80°	0
85°	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8776 cd/sqm



TEST NUMBER: P640332

CATALOG NUMBER: ML5609LSFL40D2W1E - 693BB - 900LM - 3000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.6	14.5
10°-20°	370.3	30.5
20°-30°	342.1	28.2
30°-40°	211.7	17.4
40°-50°	90.9	7.5
50°-60°	19.6	1.6
60°-70°	3.5	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°	887.9	73.2
0°-40°	1099.5	90.6
0°-60°	1210.1	99.7
0°-90°	1213.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1213.6	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2001	
5°	1931	176
15°	1339	370
25°	746	342
35°	333	212
45°	113	91
55°	18	20
65°	3	4
75°	0	0
85°	0	0
90°	0	



TEST NUMBER: P640332

CATALOG NUMBER: ML5609LSFL40D2W1E - 693BB - 900LM - 3000K

**CANDELA DISTRIBUTION (FULL):**

	0°
0°	2000.9
2.5°	1990.1
5°	1930.8
7.5°	1816.5
10°	1664.5
12.5°	1501.8
15°	1339.0
17.5°	1175.1
20°	1017.7
22.5°	874.3
25°	746.0
27.5°	626.4
30°	517.5
32.5°	419.4
35°	333.1
37.5°	260.9
40°	200.5
42.5°	155.2
45°	113.2
47.5°	83.0
50°	51.7
52.5°	27.0
55°	18.3
57.5°	12.9
60°	9.7
62.5°	6.5
65°	3.2
67.5°	0.0
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

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

Scaled Data Report





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

Scaled Data Report



— 0°-180°

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

Scaled Data Report



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

Scaled Data Report



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

Scaled Data Report



(END OF REPORT)