

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



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: P642499

Luminaire Tested: ML5615LSFL409FS1E - 594TBZB - 1500LM - 4000K

Issue Date: 2/17/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P642499  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-34)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 2/17/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML5615LSFL409FS1E - 594TBZB - 1500LM - 4000K  
Description: ML56 RR, 40D TIR OPTIC, 5" TUSCON BRONZE GIMBAL TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

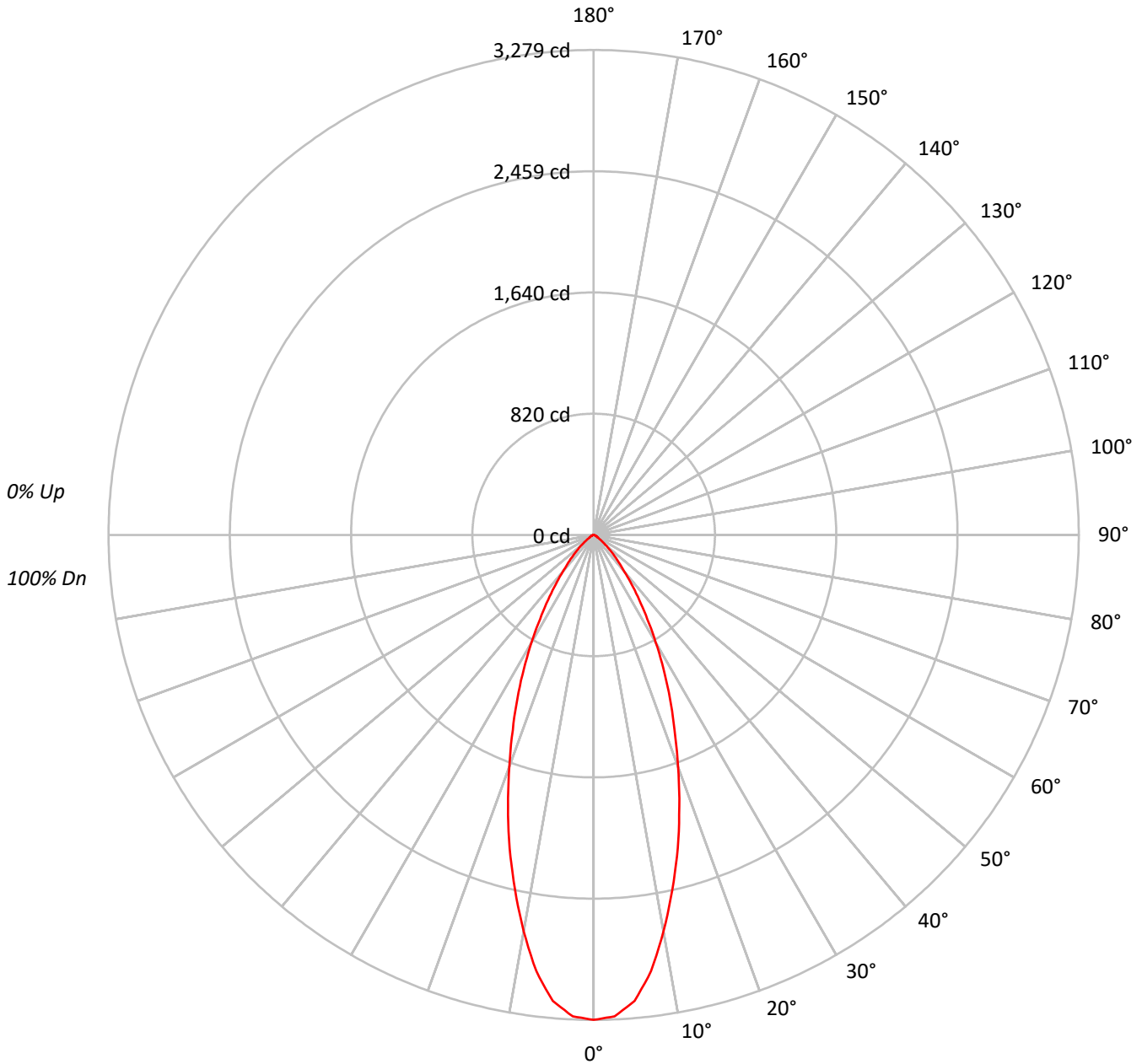
Lumens per Lamp: N/A  
Luminaire Lumens: 2022.2 lumens  
Efficiency: N/A  
Efficacy: 118.3 lumens/watt  
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.69  
Luminous Opening: Circular (Dia: 0.42' x H: 0')  
CIE Type: Direct

Input Watts (W): 17.1  
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: P642499  
CATALOG NUMBER: ML5615LSFL409FS1E - 594TBZB - 1500LM - 4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P642499

CATALOG NUMBER: ML5615LSFL409FS1E - 594TBZB - 1500LM - 4000K

**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	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93																			
2	108	103	99	96	106	101	98	95	98	95	92	95	93	91	92	90	89	87																			
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	87	85	83	81																			
4	97	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76																			
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71																			
6	88	79	74	69	87	79	73	69	77	72	69	76	71	68	74	71	68	66																			
7	84	75	69	65	83	74	69	65	73	68	64	72	67	64	71	67	64	62																			
8	80	71	65	61	79	70	65	61	69	64	61	68	64	60	67	63	60	59																			
9	77	67	61	58	76	67	61	58	66	61	57	65	60	57	64	60	57	56																			
10	73	64	58	55	72	63	58	54	63	58	54	62	57	54	61	57	54	53																			

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

	0°
0°	258816
5°	250699
10°	218184
15°	179257
20°	139864
25°	106220
30°	76523
35°	51606
40°	33326
45°	21513
50°	12588
55°	7060
60°	4736
65°	3306
70°	2447
75°	2166
80°	818
85°	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 21513 cd/sqm



TEST NUMBER: P642499

CATALOG NUMBER: ML5615LSFL409FS1E - 594TBZB - 1500LM - 4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	287.5	14.2
10°-20°	606.1	30.0
20°-30°	558.1	27.6
30°-40°	341.2	16.9
40°-50°	152.5	7.5
50°-60°	50.3	2.5
60°-70°	18.9	0.9
70°-80°	6.7	0.3
80°-90°	0.7	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°	1451.7	71.8
0°-40°	1792.9	88.7
0°-60°	1995.8	98.7
0°-90°	2022.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2022.2	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	3279	
5°	3164	287
15°	2193	606
25°	1220	558
35°	536	341
45°	193	153
55°	51	50
65°	18	19
75°	7	7
85°	0	1
90°	0	



TEST NUMBER: P642499

CATALOG NUMBER: ML5615LSFL409FS1E - 594TBZB - 1500LM - 4000K

**CANDELA DISTRIBUTION (FULL):**

0°	
0°	3278.6
2.5°	3257.4
5°	3163.7
7.5°	2974.6
10°	2721.9
12.5°	2456.7
15°	2193.4
17.5°	1924.7
20°	1664.9
22.5°	1428.1
25°	1219.5
27.5°	1019.8
30°	839.5
32.5°	675.2
35°	535.5
37.5°	420.7
40°	323.4
42.5°	251.0
45°	192.7
47.5°	143.2
50°	102.5
52.5°	72.5
55°	51.3
57.5°	37.1
60°	30.0
62.5°	24.7
65°	17.7
67.5°	14.1
70°	10.6
72.5°	8.8
75°	7.1
77.5°	3.5
80°	1.8
82.5°	1.8
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)