

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 COMMERCIAL

Report Number: P837698

Luminaire Tested: HCSQ460D010-HM44560930-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837698  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ460D010-HM44560930-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

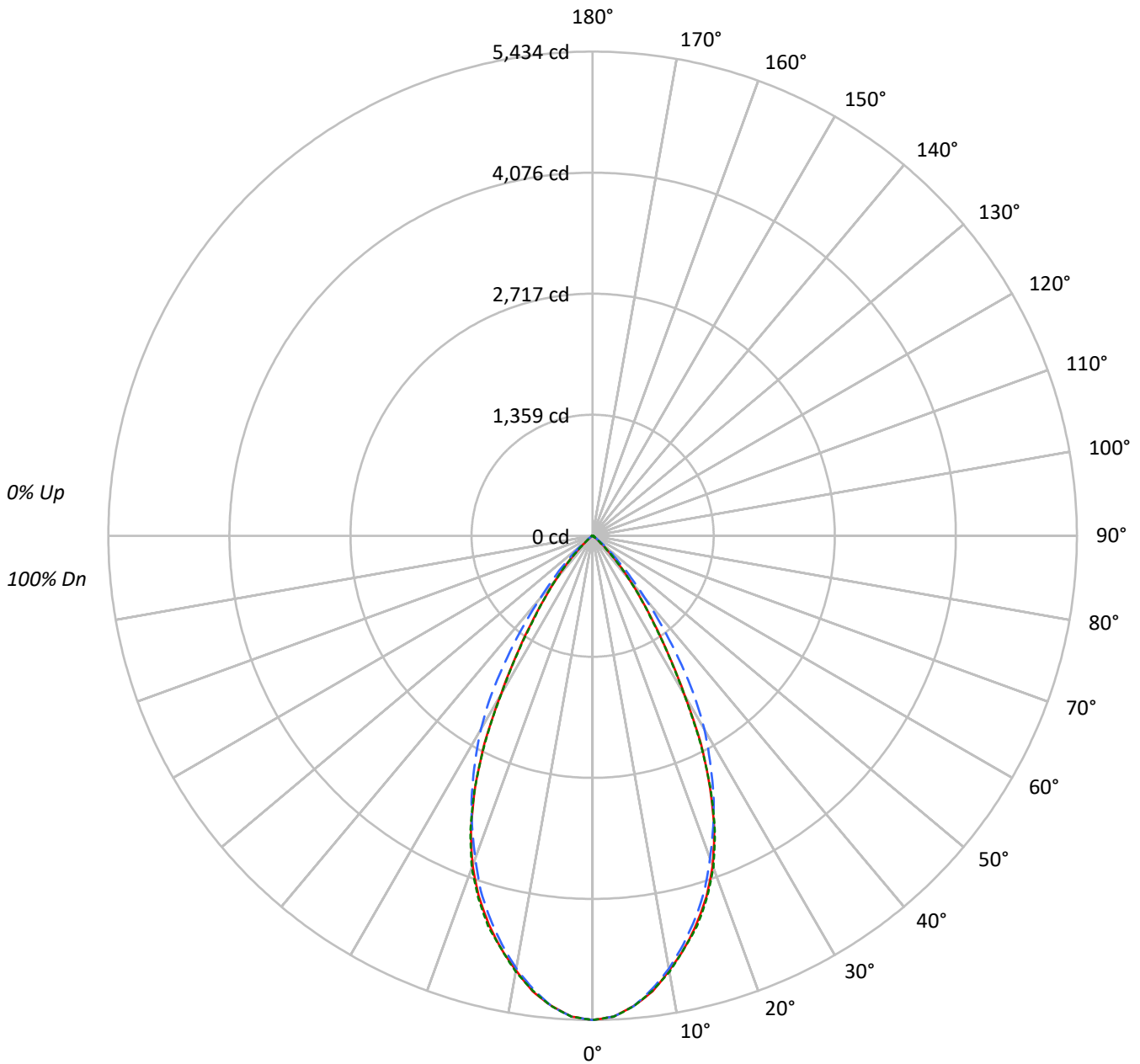
Lumens per Lamp: N/A  
Luminaire Lumens: 4391.6 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 56  
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: P837698

CATALOG NUMBER: HCSQ460D010-HM44560930-41SQC

### Luminous Intensity Polar Plot





TEST NUMBER: P837698

CATALOG NUMBER: HCSQ460D010-HM44560930-41SQC

**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	94																			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87																			
3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81																			
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76																			
5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71																			
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66																			
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62																			
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58																			
9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55																			
10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52																			

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

	0°	45°	90°
0°	526470	526470	526470
5°	515177	515391	515391
10°	487295	485121	488593
15°	452130	445942	454567
20°	405866	396773	408371
25°	333348	343021	334534
30°	230436	280271	228702
35°	141892	197972	138498
40°	80050	115751	79494
45°	36566	58021	35045
50°	9314	23270	9646
55°	4476	7077	4104
60°	2984	2558	3410
65°	2521	2017	2521
70°	1869	1869	2493
75°	1647	1647	2470
80°	2455	2455	2455
85°	2445	4891	4891

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 58021 cd/sqm



TEST NUMBER: P837698  
 CATALOG NUMBER: HCSQ460D010-HM44560930-41SQC

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	494.4	11.3
10°-20°	1248.5	28.4
20°-30°	1427.3	32.5
30°-40°	886.0	20.2
40°-50°	279.2	6.4
50°-60°	36.1	0.8
60°-70°	10.7	0.2
70°-80°	5.7	0.1
80°-90°	3.8	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°	3170.1	72.2
0°-40°	4056.1	92.4
0°-60°	4371.4	99.5
0°-90°	4391.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4391.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5434	5434	5434	5434	5434	
5°	5298	5293	5300	5296	5300	495
15°	4508	4475	4446	4475	4532	1257
25°	3119	3163	3209	3163	3130	1399
35°	1200	1385	1674	1352	1171	771
45°	267	320	424	322	256	225
55°	26	26	42	26	24	26
65°	11	11	9	11	11	11
75°	4	4	4	4	7	6
85°	2	4	4	4	4	2
90°	0	0	0	0	0	



TEST NUMBER: P837698

CATALOG NUMBER: HCSQ460D010-HM44560930-41SQC

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5434.5	5434.5	5434.5	5434.5	5434.5
2.5°	5401.4	5405.8	5401.4	5410.2	5401.4
5°	5297.7	5293.3	5299.9	5295.5	5299.9
7.5°	5156.6	5130.1	5127.9	5145.5	5147.7
10°	4953.7	4947.0	4931.6	4947.0	4966.9
12.5°	4746.3	4719.9	4697.8	4728.7	4746.3
15°	4508.1	4475.1	4446.4	4475.1	4532.4
17.5°	4245.7	4199.4	4175.1	4208.2	4263.3
20°	3936.9	3888.4	3848.7	3877.4	3961.2
22.5°	3566.4	3562.0	3535.5	3550.9	3581.8
25°	3118.6	3162.8	3209.1	3162.8	3129.7
27.5°	2626.8	2745.9	2851.8	2712.8	2607.0
30°	2060.0	2240.8	2505.5	2227.6	2044.5
32.5°	1592.4	1782.1	2119.5	1757.8	1579.2
35°	1199.8	1385.1	1674.0	1352.0	1171.1
37.5°	882.2	1021.2	1272.6	1012.3	882.2
40°	633.0	723.4	915.3	721.2	628.6
42.5°	438.9	498.5	639.6	494.0	425.7
45°	266.9	319.8	423.5	322.0	255.8
47.5°	141.2	202.9	266.9	194.1	141.2
50°	61.8	108.1	154.4	105.9	64.0
52.5°	33.1	46.3	83.8	46.3	33.1
55°	26.5	26.5	41.9	26.5	24.3
57.5°	19.8	19.8	22.1	19.8	19.8
60°	15.4	15.4	13.2	15.4	17.6
62.5°	13.2	13.2	11.0	13.2	13.2
65°	11.0	11.0	8.8	11.0	11.0
67.5°	8.8	8.8	8.8	8.8	8.8
70°	6.6	6.6	6.6	8.8	8.8
72.5°	6.6	6.6	6.6	6.6	6.6
75°	4.4	4.4	4.4	4.4	6.6
77.5°	4.4	4.4	4.4	4.4	4.4
80°	4.4	4.4	4.4	4.4	4.4
82.5°	2.2	4.4	4.4	4.4	4.4
85°	2.2	4.4	4.4	4.4	4.4
87.5°	2.2	2.2	4.4	4.4	4.4
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



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







— 0°-180°    - - 45°-225°    - - - - 90°-270°

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)