

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: P837578

Luminaire Tested: HCSQ445D010-HM44560930-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837578  
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: HCSQ445D010-HM44560930-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

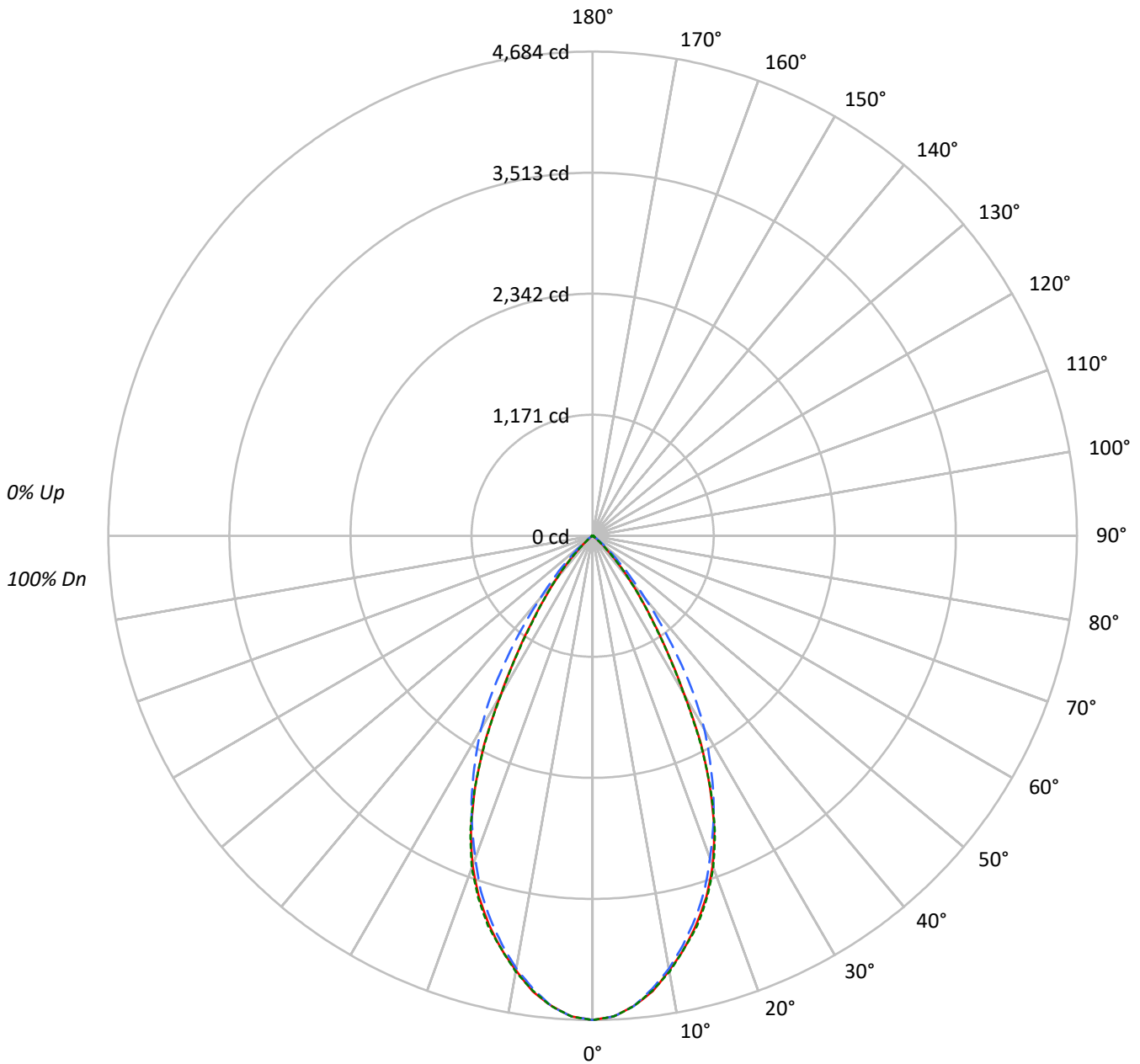
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3785.1 lumens  
Efficiency: N/A  
Efficacy: 82.5 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): 45.9  
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: P837578  
CATALOG NUMBER: HCSQ445D010-HM44560930-41SQC

### Luminous Intensity Polar Plot





TEST NUMBER: P837578  
 CATALOG NUMBER: HCSQ445D010-HM44560930-41SQC

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20				
RC	80					70					50					30				
RW	70	50	30	10	70	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°	453765	453765	453765
5°	444033	444217	444217
10°	420000	418131	421121
15°	389698	384352	391794
20°	349814	341979	351969
25°	287321	295648	288336
30°	198611	241566	197123
35°	122296	170630	119375
40°	68998	99766	68517
45°	31511	50006	30209
50°	8018	20060	8304
55°	3851	6097	3530
60°	2577	2209	2945
65°	2178	1742	2178
70°	1614	1614	2153
75°	1422	1422	2133
80°	2120	2120	2120
85°	2112	4224	4224

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 50006 cd/sqm



TEST NUMBER: P837578

CATALOG NUMBER: HCSQ445D010-HM44560930-41SQC

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	426.1	11.3
10°-20°	1076.1	28.4
20°-30°	1230.1	32.5
30°-40°	763.6	20.2
40°-50°	240.6	6.4
50°-60°	31.1	0.8
60°-70°	9.2	0.2
70°-80°	4.9	0.1
80°-90°	3.3	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°	2732.3	72.2
0°-40°	3495.9	92.4
0°-60°	3767.7	99.5
0°-90°	3785.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3785.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4684	4684	4684	4684	4684	
5°	4566	4562	4568	4564	4568	427
15°	3886	3857	3832	3857	3906	1084
25°	2688	2726	2766	2726	2698	1206
35°	1034	1194	1443	1165	1009	665
45°	230	276	365	278	220	194
55°	23	23	36	23	21	23
65°	10	10	8	10	10	9
75°	4	4	4	4	6	5
85°	2	4	4	4	4	2
90°	0	0	0	0	0	



TEST NUMBER: P837578

CATALOG NUMBER: HCSQ445D010-HM44560930-41SQC

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4684.0	4684.0	4684.0	4684.0	4684.0
2.5°	4655.5	4659.3	4655.5	4663.1	4655.5
5°	4566.1	4562.3	4568.0	4564.2	4568.0
7.5°	4444.4	4421.6	4419.7	4434.9	4436.8
10°	4269.6	4263.9	4250.6	4263.9	4281.0
12.5°	4090.9	4068.1	4049.0	4075.7	4090.9
15°	3885.6	3857.1	3832.3	3857.1	3906.5
17.5°	3659.4	3619.4	3598.5	3627.0	3674.6
20°	3393.2	3351.4	3317.2	3341.9	3414.1
22.5°	3073.9	3070.1	3047.2	3060.5	3087.2
25°	2688.0	2726.0	2765.9	2726.0	2697.5
27.5°	2264.0	2366.7	2457.9	2338.2	2246.9
30°	1775.5	1931.4	2159.5	1920.0	1762.2
32.5°	1372.5	1536.0	1826.8	1515.1	1361.1
35°	1034.1	1193.8	1442.8	1165.3	1009.4
37.5°	760.4	880.1	1096.9	872.5	760.4
40°	545.6	623.5	788.9	621.6	541.8
42.5°	378.3	429.6	551.3	425.8	366.9
45°	230.0	275.6	365.0	277.5	220.5
47.5°	121.7	174.9	230.0	167.3	121.7
50°	53.2	93.1	133.1	91.2	55.1
52.5°	28.5	39.9	72.2	39.9	28.5
55°	22.8	22.8	36.1	22.8	20.9
57.5°	17.1	17.1	19.0	17.1	17.1
60°	13.3	13.3	11.4	13.3	15.2
62.5°	11.4	11.4	9.5	11.4	11.4
65°	9.5	9.5	7.6	9.5	9.5
67.5°	7.6	7.6	7.6	7.6	7.6
70°	5.7	5.7	5.7	7.6	7.6
72.5°	5.7	5.7	5.7	5.7	5.7
75°	3.8	3.8	3.8	3.8	5.7
77.5°	3.8	3.8	3.8	3.8	3.8
80°	3.8	3.8	3.8	3.8	3.8
82.5°	1.9	3.8	3.8	3.8	3.8
85°	1.9	3.8	3.8	3.8	3.8
87.5°	1.9	1.9	3.8	3.8	3.8
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)