

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: P837197

Luminaire Tested: HCSQ405D010-HM40525827-41SQMW

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837197  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ405D010-HM40525827-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

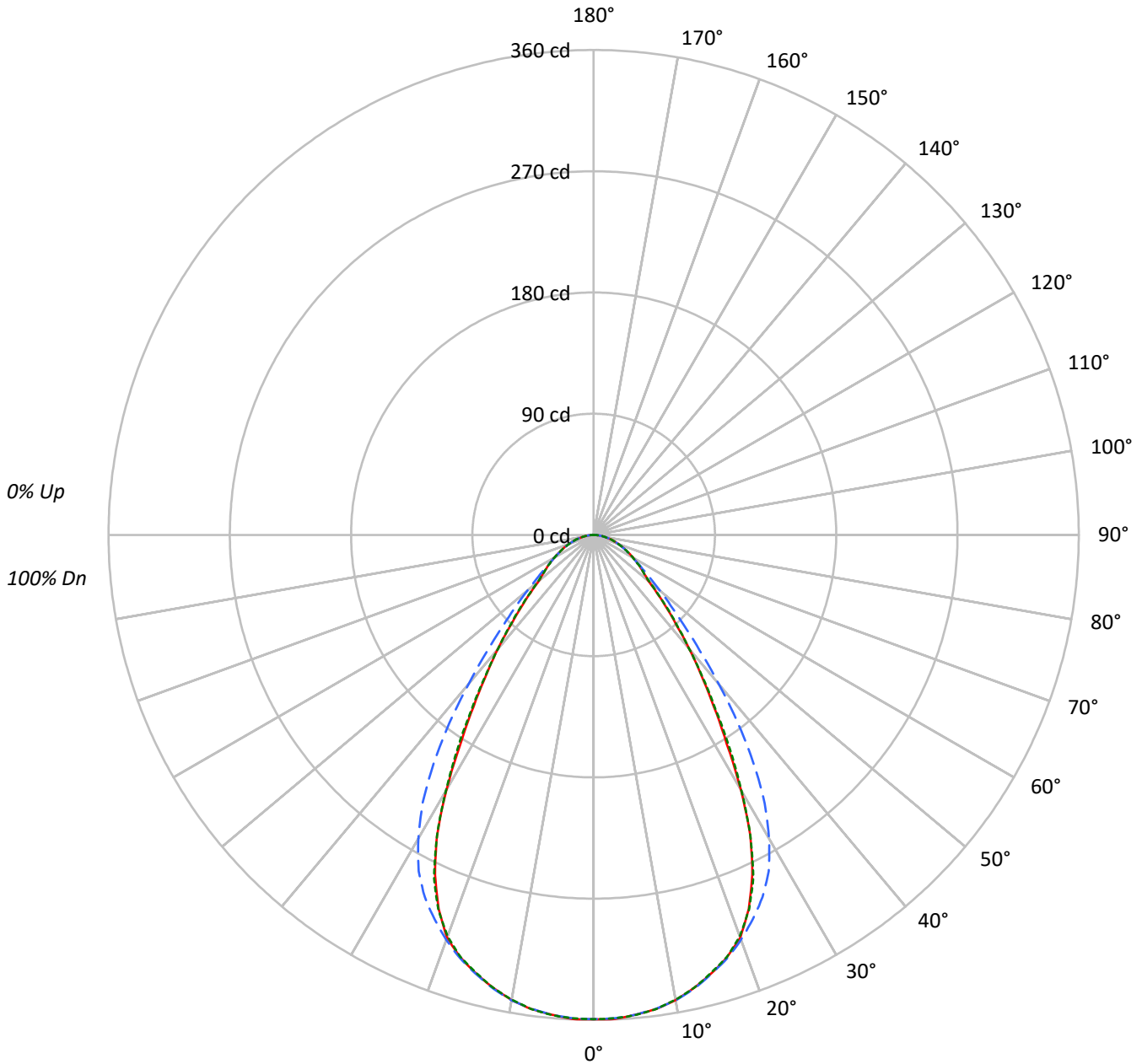
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 521.7 lumens  
Efficiency: N/A  
Efficacy: 87.0 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 6  
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: P837197  
CATALOG NUMBER: HCSQ405D010-HM40525827-41SQMW

### Luminous Intensity Polar Plot





TEST NUMBER: P837197

CATALOG NUMBER: HCSQ405D010-HM40525827-41SQMW

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

RF	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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	39	38								

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

	0°	45°	90°
0°	34827	34827	34827
5°	34765	34765	34794
10°	34488	34508	34459
15°	33809	33839	33759
20°	32794	32969	32680
25°	29769	31704	29972
30°	24431	29118	24531
35°	18366	24445	18626
40°	13987	18223	13949
45°	10453	12933	10645
50°	7958	9646	8123
55°	7178	7550	7178
60°	6549	6491	6491
65°	5960	5960	5960
70°	5552	5467	5467
75°	5128	5016	5128
80°	4686	4519	4686
85°	4001	4001	4001

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 12933 cd/sqm



TEST NUMBER: P837197

CATALOG NUMBER: HCSQ405D010-HM40525827-41SQMW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.9	6.5
10°-20°	94.9	18.2
20°-30°	130.5	25.0
30°-40°	111.1	21.3
40°-50°	67.1	12.9
50°-60°	39.6	7.6
60°-70°	26.0	5.0
70°-80°	14.4	2.8
80°-90°	4.2	0.8
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°	259.3	49.7
0°-40°	370.5	71.0
0°-60°	477.2	91.5
0°-90°	521.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	521.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	360	360	360	360	360	
5°	358	358	358	357	358	34
15°	337	338	337	337	337	95
25°	278	287	297	288	280	126
35°	155	171	207	176	158	98
45°	76	84	94	85	78	60
55°	42	43	45	43	42	38
65°	26	26	26	26	26	26
75°	14	14	13	13	14	15
85°	4	4	4	4	4	4
90°	0	0	0	0	0	



TEST NUMBER: P837197

CATALOG NUMBER: HCSQ405D010-HM40525827-41SQMW

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	359.5	359.5	359.5	359.5	359.5
2.5°	359.8	358.9	359.2	358.9	359.2
5°	357.5	357.8	357.5	357.3	357.8
7.5°	355.0	354.7	354.7	354.5	355.0
10°	350.6	350.0	350.8	350.3	350.3
12.5°	344.4	345.2	345.0	345.0	344.4
15°	337.1	338.0	337.4	337.1	336.6
17.5°	328.8	329.3	329.6	328.5	328.5
20°	318.1	319.3	319.8	317.9	317.0
22.5°	300.6	305.6	308.7	305.3	301.1
25°	278.5	287.1	296.6	287.7	280.4
27.5°	251.9	264.2	281.3	266.2	251.9
30°	218.4	236.6	260.3	238.5	219.3
32.5°	183.8	203.1	236.3	206.4	187.7
35°	155.3	170.9	206.7	175.7	157.5
37.5°	130.7	144.1	175.7	147.2	132.1
40°	110.6	121.2	144.1	122.6	110.3
42.5°	91.3	101.4	116.8	102.8	92.5
45°	76.3	84.4	94.4	85.2	77.7
47.5°	63.4	70.1	77.4	70.1	64.2
50°	52.8	58.1	64.0	58.1	53.9
52.5°	47.2	48.9	52.8	49.2	47.2
55°	42.5	43.3	44.7	43.3	42.5
57.5°	38.0	38.5	38.3	38.3	38.0
60°	33.8	34.1	33.5	33.8	33.5
62.5°	29.9	29.9	29.3	29.9	29.6
65°	26.0	26.3	26.0	26.0	26.0
67.5°	22.6	22.6	22.3	22.6	22.6
70°	19.6	19.6	19.3	19.6	19.3
72.5°	16.5	16.5	16.2	16.2	16.2
75°	13.7	13.7	13.4	13.4	13.7
77.5°	10.9	10.9	10.6	10.9	10.9
80°	8.4	8.4	8.1	8.4	8.4
82.5°	5.9	5.9	5.9	6.1	6.1
85°	3.6	3.6	3.6	3.6	3.6
87.5°	1.7	1.7	1.7	1.7	2.0
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)