

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: P837422

Luminaire Tested: HCSQ425D010-HM40525930-41SQMW

Issue Date: 5/17/2024



**Test Information**

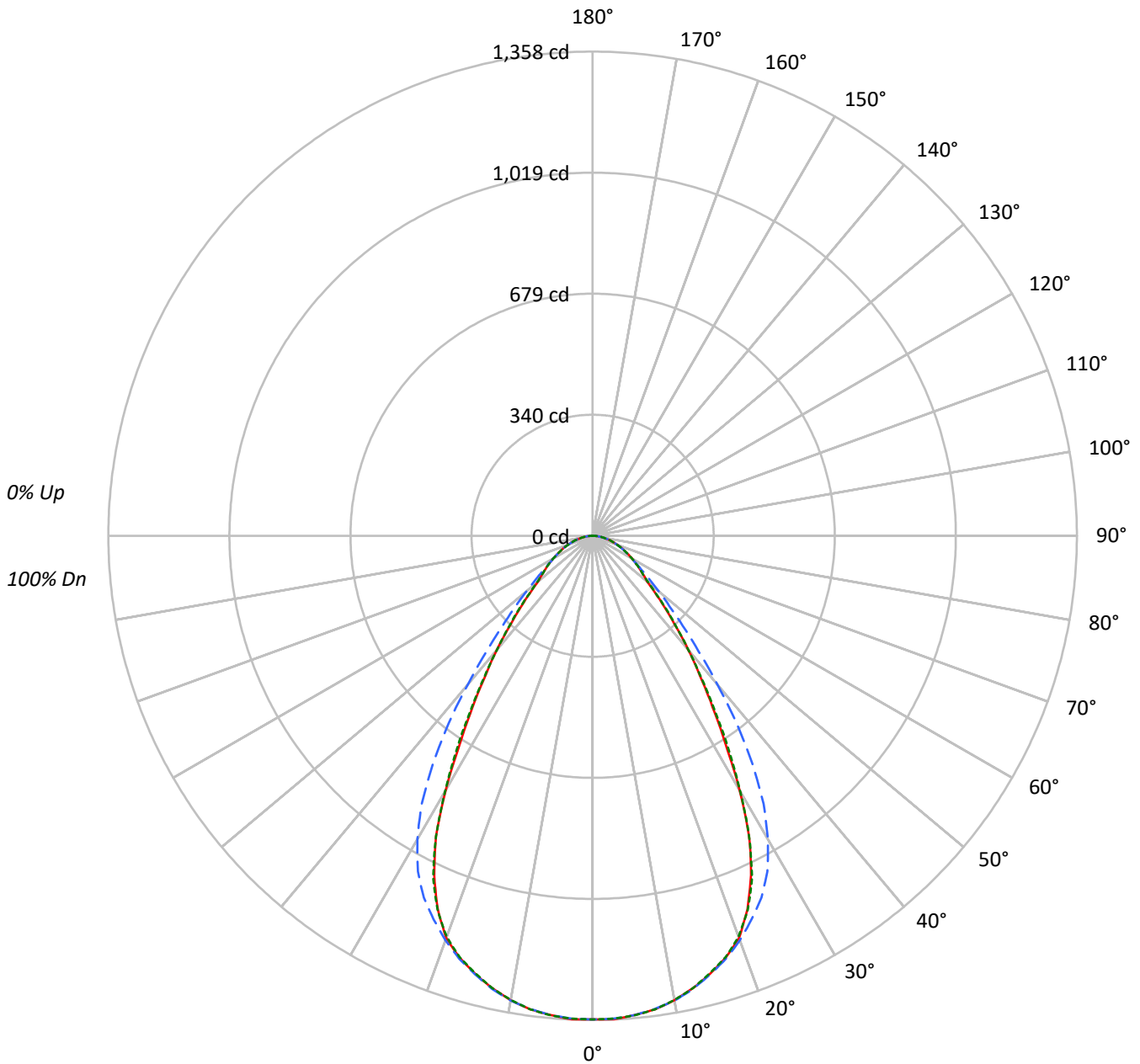
Test Method: LM-79-2019  
Report Number: P837422  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ425D010-HM40525930-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1968.7 lumens  
Efficiency: N/A  
Efficacy: 71.1 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): 27.7  
Input Voltage (V): NR  
Input Current (Ain): 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

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### Luminous Intensity Polar Plot





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**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	40	38								

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

	0°	45°	90°
0°	131421	131421	131421
5°	131204	131204	131311
10°	130134	130232	130025
15°	127603	127703	127382
20°	123773	124423	123340
25°	112331	119653	113122
30°	92208	109893	92555
35°	69314	92245	70307
40°	52785	68783	52659
45°	39429	48814	40142
50°	30022	36382	30655
55°	27057	28493	27057
60°	24703	24509	24509
65°	22464	22464	22464
70°	20903	20592	20592
75°	19314	18939	19314
80°	17629	17071	17629
85°	15228	15228	15228

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 48814 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.9	6.5
10°-20°	358.2	18.2
20°-30°	492.6	25.0
30°-40°	419.3	21.3
40°-50°	253.3	12.9
50°-60°	149.3	7.6
60°-70°	97.9	5.0
70°-80°	54.3	2.8
80°-90°	15.9	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°	978.7	49.7
0°-40°	1398.0	71.0
0°-60°	1800.6	91.5
0°-90°	1968.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1968.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1357	1357	1357	1357	1357	
5°	1349	1350	1349	1348	1350	128
15°	1272	1275	1273	1272	1270	358
25°	1051	1084	1119	1086	1058	475
35°	586	645	780	663	594	371
45°	288	318	356	322	293	226
55°	160	163	169	163	160	144
65°	98	99	98	98	98	98
75°	52	52	51	51	52	55
85°	14	14	14	14	14	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1356.6	1356.6	1356.6	1356.6	1356.6
2.5°	1357.6	1354.5	1355.5	1354.5	1355.5
5°	1349.2	1350.3	1349.2	1348.1	1350.3
7.5°	1339.7	1338.7	1338.7	1337.6	1339.7
10°	1322.9	1320.7	1323.9	1321.8	1321.8
12.5°	1299.7	1302.8	1301.8	1301.8	1299.7
15°	1272.3	1275.4	1273.3	1272.3	1270.1
17.5°	1240.6	1242.7	1243.8	1239.6	1239.6
20°	1200.6	1204.8	1206.9	1199.5	1196.4
22.5°	1134.2	1153.1	1164.7	1152.1	1136.3
25°	1050.9	1083.6	1119.4	1085.7	1058.3
27.5°	950.8	997.1	1061.4	1004.5	950.8
30°	824.3	892.8	982.4	900.2	827.4
32.5°	693.6	766.3	891.7	779.0	708.3
35°	586.1	645.1	780.0	663.0	594.5
37.5°	493.3	543.9	663.0	555.5	498.6
40°	417.4	457.5	543.9	462.7	416.4
42.5°	344.7	382.6	440.6	387.9	348.9
45°	287.8	318.3	356.3	321.5	293.0
47.5°	239.3	264.6	292.0	264.6	242.4
50°	199.2	219.2	241.4	219.2	203.4
52.5°	178.1	184.5	199.2	185.5	178.1
55°	160.2	163.4	168.7	163.4	160.2
57.5°	143.4	145.5	144.4	144.4	143.4
60°	127.5	128.6	126.5	127.5	126.5
62.5°	112.8	112.8	110.7	112.8	111.7
65°	98.0	99.1	98.0	98.0	98.0
67.5°	85.4	85.4	84.3	85.4	85.4
70°	73.8	73.8	72.7	73.8	72.7
72.5°	62.2	62.2	61.1	61.1	61.1
75°	51.6	51.6	50.6	50.6	51.6
77.5°	41.1	41.1	40.1	41.1	41.1
80°	31.6	31.6	30.6	31.6	31.6
82.5°	22.1	22.1	22.1	23.2	23.2
85°	13.7	13.7	13.7	13.7	13.7
87.5°	6.3	6.3	6.3	6.3	7.4
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



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Scaled Data Report







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

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