

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: P837407

Luminaire Tested: HCSQ425D010-HM40525835-41SQMW

Issue Date: 5/17/2024

**Test Information**

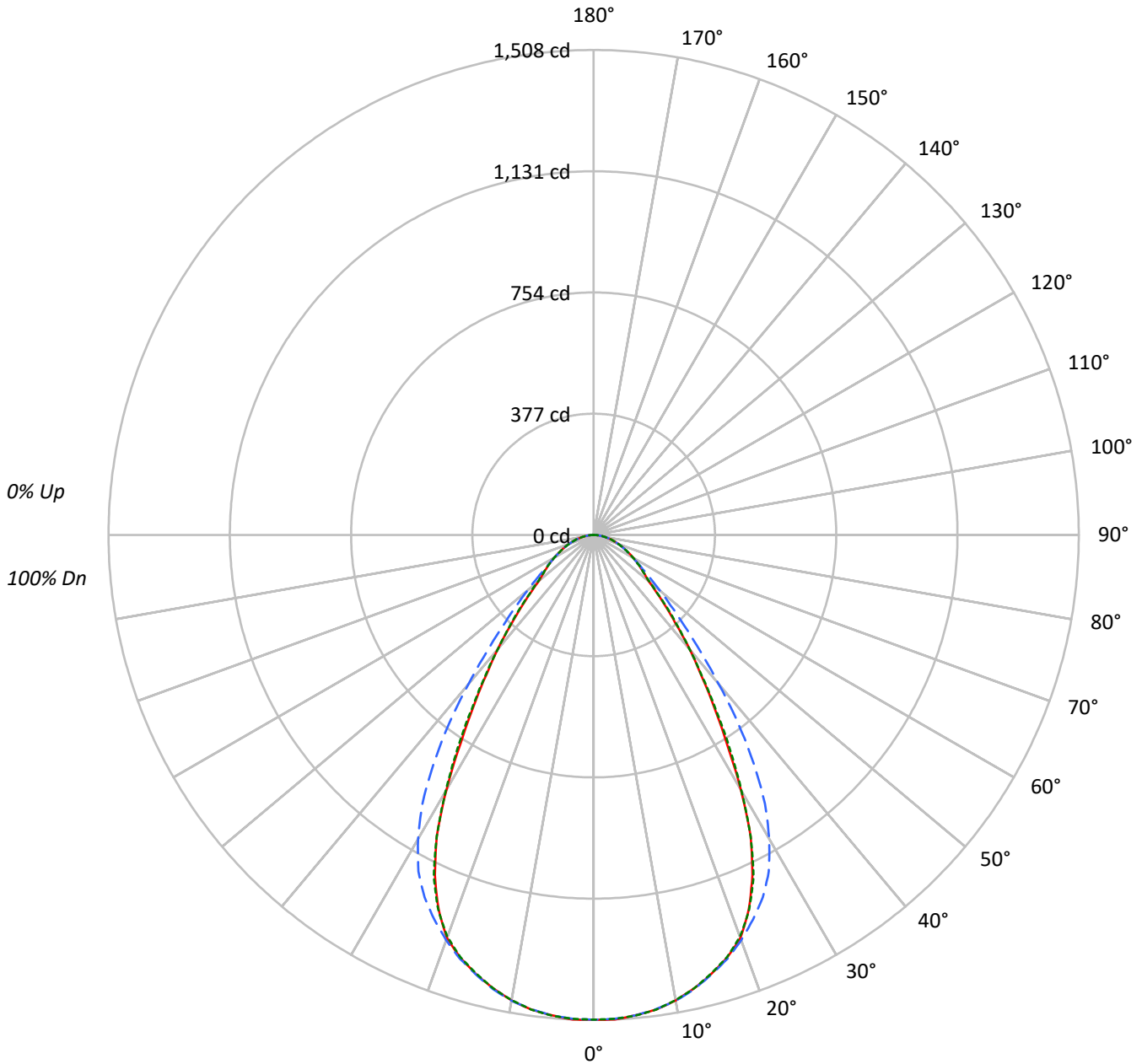
Test Method: LM-79-2019  
Report Number: P837407  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ425D010-HM40525835-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2187.4 lumens  
Efficiency: N/A  
Efficacy: 79.0 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): 27.7  
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

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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°	146020	146020	146020
5°	145781	145781	145897
10°	144584	144702	144476
15°	141774	141894	141543
20°	137526	138247	137041
25°	124816	132950	125692
30°	102455	122097	102846
35°	77013	102499	78113
40°	58653	76421	58501
45°	43800	54239	44608
50°	33368	40421	34061
55°	30064	31651	30064
60°	27454	27222	27222
65°	24963	24963	24963
70°	23226	22886	22886
75°	21485	21036	21485
80°	19582	18968	19582
85°	16895	16895	16895

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 54239 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.2	6.5
10°-20°	398.0	18.2
20°-30°	547.3	25.0
30°-40°	465.9	21.3
40°-50°	281.4	12.9
50°-60°	165.9	7.6
60°-70°	108.8	5.0
70°-80°	60.3	2.8
80°-90°	17.6	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°	1087.5	49.7
0°-40°	1553.4	71.0
0°-60°	2000.7	91.5
0°-90°	2187.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2187.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1507	1507	1507	1507	1507	
5°	1499	1500	1499	1498	1500	142
15°	1414	1417	1415	1414	1411	398
25°	1168	1204	1244	1206	1176	528
35°	651	717	867	737	660	412
45°	320	354	396	357	326	251
55°	178	182	187	182	178	160
65°	109	110	109	109	109	109
75°	57	57	56	56	57	61
85°	15	15	15	15	15	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1507.3	1507.3	1507.3	1507.3	1507.3
2.5°	1508.5	1505.0	1506.1	1505.0	1506.1
5°	1499.1	1500.3	1499.1	1497.9	1500.3
7.5°	1488.6	1487.4	1487.4	1486.2	1488.6
10°	1469.8	1467.5	1471.0	1468.7	1468.7
12.5°	1444.1	1447.6	1446.4	1446.4	1444.1
15°	1413.6	1417.1	1414.8	1413.6	1411.3
17.5°	1378.5	1380.8	1382.0	1377.3	1377.3
20°	1334.0	1338.7	1341.0	1332.8	1329.3
22.5°	1260.2	1281.3	1294.2	1280.1	1262.5
25°	1167.7	1204.0	1243.8	1206.3	1175.9
27.5°	1056.4	1107.9	1179.4	1116.1	1056.4
30°	915.9	992.0	1091.5	1000.2	919.4
32.5°	770.6	851.5	990.8	865.5	787.0
35°	651.2	716.8	866.7	736.7	660.5
37.5°	548.1	604.3	736.7	617.2	554.0
40°	463.8	508.3	604.3	514.1	462.6
42.5°	383.0	425.1	489.6	431.0	387.7
45°	319.7	353.7	395.9	357.2	325.6
47.5°	265.9	294.0	324.4	294.0	269.4
50°	221.4	243.6	268.2	243.6	226.0
52.5°	197.9	205.0	221.4	206.1	197.9
55°	178.0	181.5	187.4	181.5	178.0
57.5°	159.3	161.6	160.5	160.5	159.3
60°	141.7	142.9	140.5	141.7	140.5
62.5°	125.3	125.3	123.0	125.3	124.1
65°	108.9	110.1	108.9	108.9	108.9
67.5°	94.9	94.9	93.7	94.9	94.9
70°	82.0	82.0	80.8	82.0	80.8
72.5°	69.1	69.1	67.9	67.9	67.9
75°	57.4	57.4	56.2	56.2	57.4
77.5°	45.7	45.7	44.5	45.7	45.7
80°	35.1	35.1	34.0	35.1	35.1
82.5°	24.6	24.6	24.6	25.8	25.8
85°	15.2	15.2	15.2	15.2	15.2
87.5°	7.0	7.0	7.0	7.0	8.2
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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