

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: P837406

Luminaire Tested: HCSQ425D010-HM40525835-41SQMB

Issue Date: 5/17/2024

**Test Information**

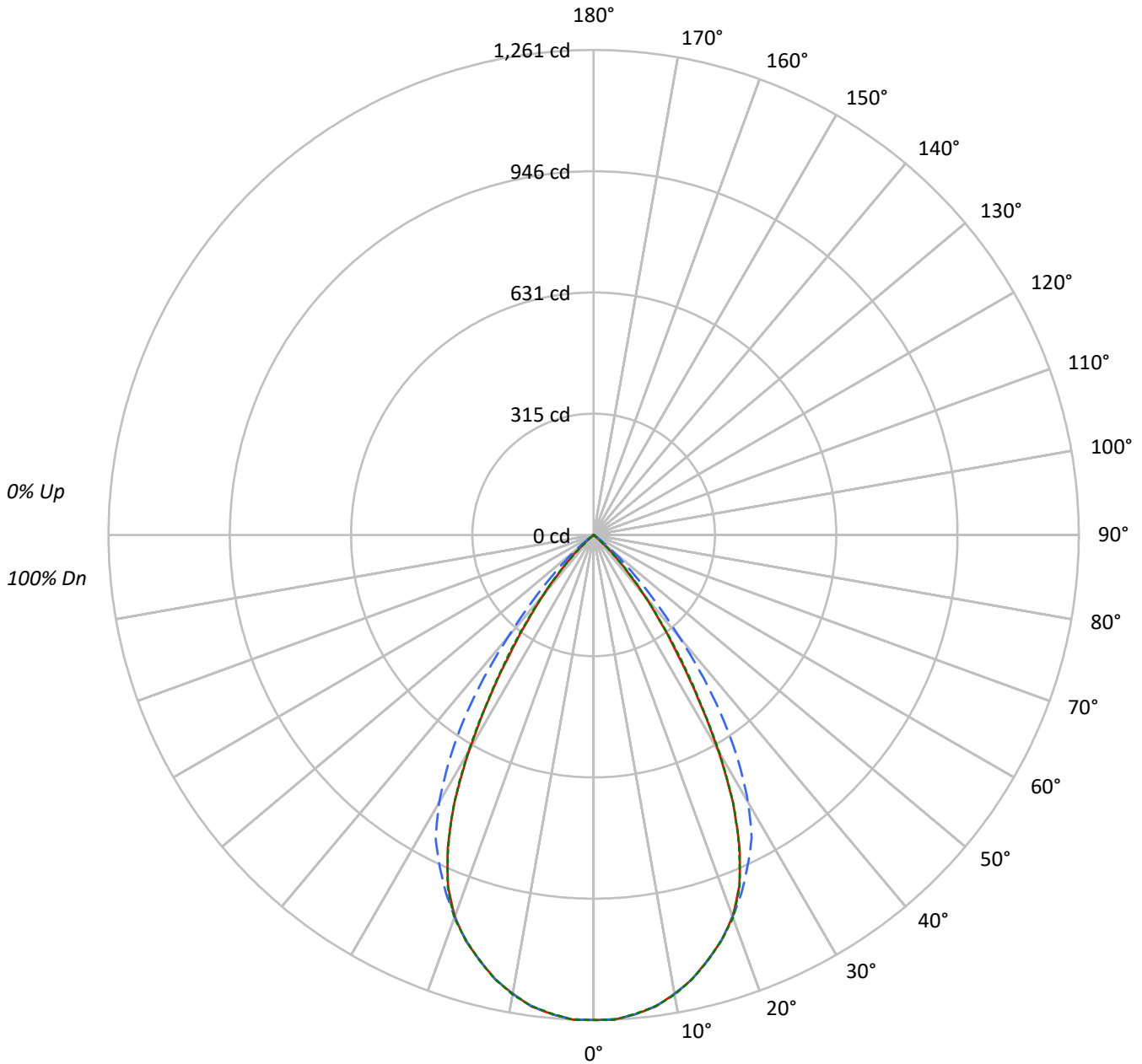
Test Method: LM-79-2019  
Report Number: P837406  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ425D010-HM40525835-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1260.1 lumens  
Efficiency: N/A  
Efficacy: 45.5 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.96 / 0.99  
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	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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87								
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	83	79	86	81	78	84	80	77	82	79	76	74								
5	92	83	77	73	90	82	77	73	80	76	72	79	75	71	77	74	71	69								
6	87	78	72	67	85	77	71	67	76	70	67	74	70	66	73	69	66	64								
7	82	73	67	63	81	72	66	62	71	66	62	70	65	62	69	65	61	60								
8	78	69	62	58	77	68	62	58	67	62	58	66	61	58	65	61	57	56								
9	74	65	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52								
10	71	61	55	51	70	60	55	51	60	54	51	59	54	51	58	54	50	49								

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

	0°	45°	90°
0°	122199	122199	122199
5°	121635	121635	121528
10°	119136	119244	119362
15°	114775	114885	114885
20°	108804	108928	109165
25°	95934	101311	95560
30°	72386	89792	73035
35°	45389	69882	46915
40°	25596	43503	25596
45°	10741	21962	10577
50°	889	8470	1055
55°	388	1773	388
60°	446	233	446
65°	275	275	275
70°	340	340	340
75°	449	449	449
80°	0	669	669
85°	0	1334	1334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 21962 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.2	9.4
10°-20°	321.6	25.5
20°-30°	417.2	33.1
30°-40°	296.6	23.5
40°-50°	96.2	7.6
50°-60°	6.9	0.5
60°-70°	1.2	0.1
70°-80°	1.2	0.1
80°-90°	0.8	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°	857.0	68.0
0°-40°	1153.7	91.6
0°-60°	1256.8	99.7
0°-90°	1260.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1260.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1261	1261	1261	1261	1261	
5°	1251	1252	1251	1251	1250	118
15°	1144	1148	1146	1148	1146	321
25°	898	921	948	926	894	402
35°	384	454	591	459	397	246
45°	78	111	160	114	77	65
55°	2	2	10	2	2	3
65°	1	1	1	1	1	1
75°	1	1	1	1	1	1
85°	0	0	1	1	1	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1261.4	1261.4	1261.4	1261.4	1261.4
2.5°	1261.4	1261.4	1260.2	1260.2	1261.4
5°	1250.8	1252.0	1250.8	1250.8	1249.7
7.5°	1236.8	1236.8	1235.6	1235.6	1235.6
10°	1211.1	1212.2	1212.2	1212.2	1213.4
12.5°	1183.0	1183.0	1183.0	1183.0	1183.0
15°	1144.4	1147.9	1145.5	1147.9	1145.5
17.5°	1105.8	1105.8	1104.6	1106.9	1104.6
20°	1055.4	1055.4	1056.6	1058.9	1058.9
22.5°	988.7	1000.4	1005.1	1002.8	991.1
25°	897.5	920.9	947.8	925.6	894.0
27.5°	782.8	827.3	889.3	834.3	785.1
30°	647.1	713.8	802.7	716.1	652.9
32.5°	506.7	583.9	702.1	589.7	511.3
35°	383.8	454.0	590.9	458.7	396.7
37.5°	283.2	347.5	469.2	349.9	291.4
40°	202.4	249.2	344.0	253.9	202.4
42.5°	129.9	176.7	242.2	177.9	135.7
45°	78.4	111.2	160.3	113.5	77.2
47.5°	35.1	63.2	99.5	65.5	35.1
50°	5.9	25.7	56.2	26.9	7.0
52.5°	3.5	4.7	26.9	4.7	3.5
55°	2.3	2.3	10.5	2.3	2.3
57.5°	2.3	2.3	2.3	2.3	2.3
60°	2.3	1.2	1.2	1.2	2.3
62.5°	1.2	1.2	1.2	1.2	1.2
65°	1.2	1.2	1.2	1.2	1.2
67.5°	1.2	1.2	1.2	1.2	1.2
70°	1.2	1.2	1.2	1.2	1.2
72.5°	1.2	1.2	1.2	1.2	1.2
75°	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2
80°	0.0	1.2	1.2	1.2	1.2
82.5°	0.0	1.2	1.2	1.2	1.2
85°	0.0	0.0	1.2	1.2	1.2
87.5°	0.0	0.0	1.2	1.2	1.2
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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