

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: P837408

Luminaire Tested: HCSQ425D010-HM40525840-41SQC

Issue Date: 5/17/2024

**Test Information**

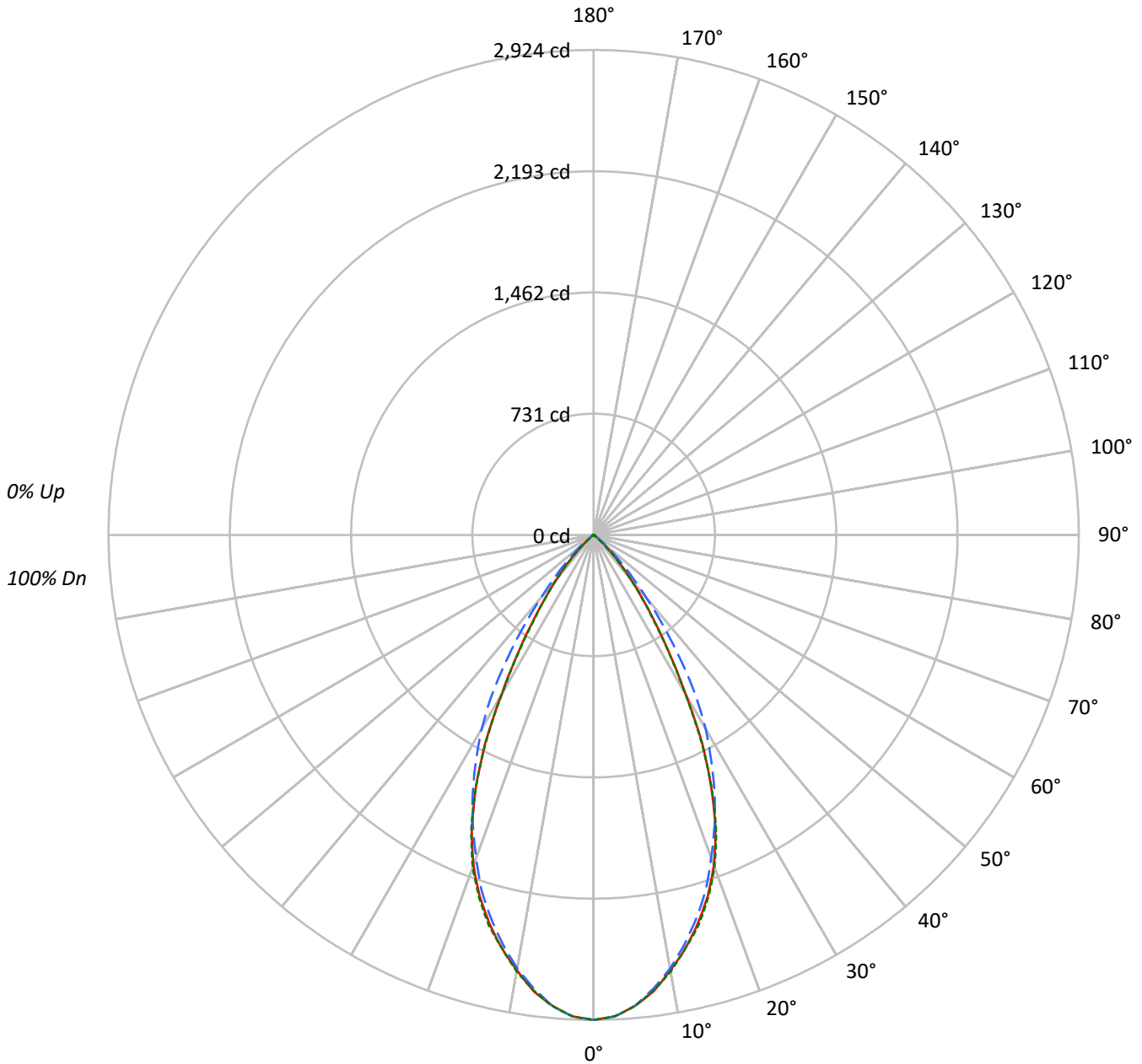
Test Method: LM-79-2019  
Report Number: P837408  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ425D010-HM40525840-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2362.9 lumens  
Efficiency: N/A  
Efficacy: 85.3 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): 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									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	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°	283264	283264	283264
5°	277189	277305	277305
10°	262185	261015	262884
15°	243270	239941	244584
20°	218371	213484	219721
25°	179362	184557	179992
30°	123988	150801	123060
35°	76351	106520	74518
40°	43073	62282	42769
45°	19674	31209	18865
50°	5004	12524	5184
55°	2398	3800	2213
60°	1608	1376	1841
65°	1352	1077	1352
70°	1020	1020	1331
75°	898	898	1347
80°	1339	1339	1339
85°	1334	2668	2668

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 31209 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	266.0	11.3
10°-20°	671.8	28.4
20°-30°	767.9	32.5
30°-40°	476.7	20.2
40°-50°	150.2	6.4
50°-60°	19.4	0.8
60°-70°	5.7	0.2
70°-80°	3.1	0.1
80°-90°	2.1	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°	1705.7	72.2
0°-40°	2182.4	92.4
0°-60°	2352.0	99.5
0°-90°	2362.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2362.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2924	2924	2924	2924	2924	
5°	2850	2848	2852	2849	2852	266
15°	2426	2408	2392	2408	2439	676
25°	1678	1702	1727	1702	1684	753
35°	646	745	901	727	630	415
45°	144	172	228	173	138	121
55°	14	14	22	14	13	14
65°	6	6	5	6	6	6
75°	2	2	2	2	4	3
85°	1	2	2	2	2	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2924.0	2924.0	2924.0	2924.0	2924.0
2.5°	2906.2	2908.6	2906.2	2911.0	2906.2
5°	2850.4	2848.1	2851.6	2849.2	2851.6
7.5°	2774.5	2760.2	2759.1	2768.6	2769.7
10°	2665.3	2661.8	2653.4	2661.8	2672.4
12.5°	2553.8	2539.5	2527.7	2544.3	2553.8
15°	2425.6	2407.8	2392.4	2407.8	2438.7
17.5°	2284.4	2259.5	2246.4	2264.2	2293.9
20°	2118.2	2092.1	2070.8	2086.2	2131.3
22.5°	1918.9	1916.5	1902.3	1910.6	1927.2
25°	1678.0	1701.7	1726.6	1701.7	1683.9
27.5°	1413.4	1477.4	1534.4	1459.6	1402.7
30°	1108.4	1205.7	1348.1	1198.6	1100.1
32.5°	856.8	958.8	1140.4	945.8	849.7
35°	645.6	745.2	900.7	727.4	630.1
37.5°	474.7	549.4	684.7	544.7	474.7
40°	340.6	389.2	492.5	388.0	338.2
42.5°	236.2	268.2	344.1	265.8	229.0
45°	143.6	172.1	227.8	173.3	137.7
47.5°	75.9	109.2	143.6	104.4	75.9
50°	33.2	58.1	83.1	57.0	34.4
52.5°	17.8	24.9	45.1	24.9	17.8
55°	14.2	14.2	22.5	14.2	13.1
57.5°	10.7	10.7	11.9	10.7	10.7
60°	8.3	8.3	7.1	8.3	9.5
62.5°	7.1	7.1	5.9	7.1	7.1
65°	5.9	5.9	4.7	5.9	5.9
67.5°	4.7	4.7	4.7	4.7	4.7
70°	3.6	3.6	3.6	4.7	4.7
72.5°	3.6	3.6	3.6	3.6	3.6
75°	2.4	2.4	2.4	2.4	3.6
77.5°	2.4	2.4	2.4	2.4	2.4
80°	2.4	2.4	2.4	2.4	2.4
82.5°	1.2	2.4	2.4	2.4	2.4
85°	1.2	2.4	2.4	2.4	2.4
87.5°	1.2	1.2	2.4	2.4	2.4
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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