

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: P837436

Luminaire Tested: HCSQ430D010-HM43040827-41SQMB

Issue Date: 5/17/2024

**Test Information**

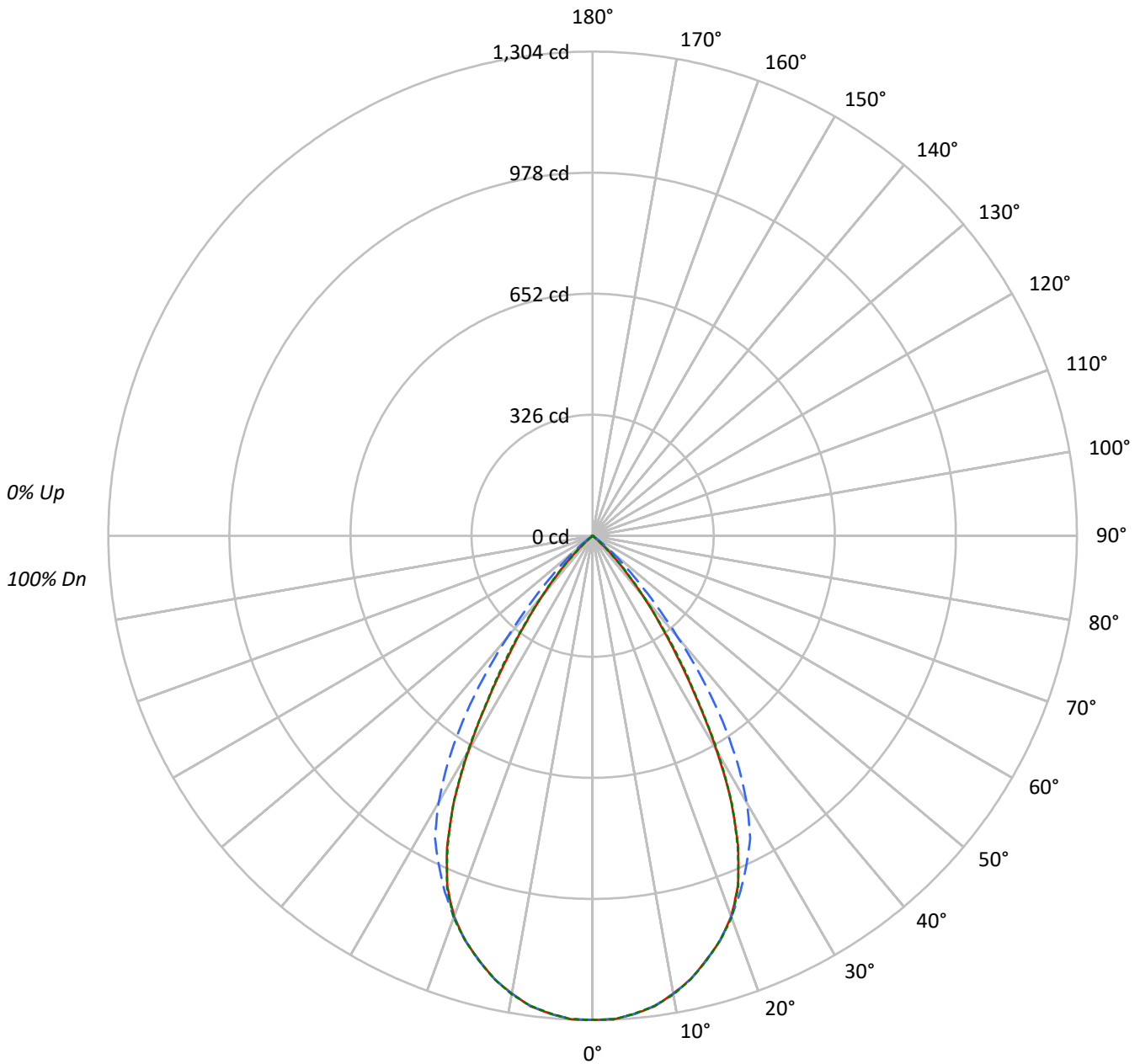
Test Method: LM-79-2019  
Report Number: P837436  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040827-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1302.1 lumens  
Efficiency: N/A  
Efficacy: 46.2 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): 28.2  
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	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°	126287	126287	126287
5°	125709	125709	125593
10°	123120	123238	123356
15°	118616	118737	118737
20°	112443	112577	112825
25°	99141	104699	98756
30°	74802	92790	75485
35°	46903	72223	48476
40°	26456	44957	26456
45°	11097	22701	10933
50°	904	8741	1100
55°	405	1841	405
60°	465	233	465
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: 22701 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.2	9.4
10°-20°	332.4	25.5
20°-30°	431.2	33.1
30°-40°	306.5	23.5
40°-50°	99.4	7.6
50°-60°	7.2	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°	885.7	68.0
0°-40°	1192.2	91.6
0°-60°	1298.8	99.7
0°-90°	1302.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1302.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1293	1294	1293	1293	1292	122
15°	1183	1186	1184	1186	1184	332
25°	928	952	980	956	924	415
35°	397	469	611	474	410	254
45°	81	115	166	117	80	67
55°	2	2	11	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°	1303.6	1303.6	1303.6	1303.6	1303.6
2.5°	1303.6	1303.6	1302.4	1302.4	1303.6
5°	1292.7	1293.9	1292.7	1292.7	1291.5
7.5°	1278.2	1278.2	1277.0	1277.0	1277.0
10°	1251.6	1252.8	1252.8	1252.8	1254.0
12.5°	1222.6	1222.6	1222.6	1222.6	1222.6
15°	1182.7	1186.3	1183.9	1186.3	1183.9
17.5°	1142.7	1142.7	1141.5	1144.0	1141.5
20°	1090.7	1090.7	1092.0	1094.4	1094.4
22.5°	1021.8	1033.9	1038.8	1036.3	1024.2
25°	927.5	951.7	979.5	956.5	923.9
27.5°	809.0	854.9	919.0	862.2	811.4
30°	668.7	737.6	829.5	740.1	674.8
32.5°	523.6	603.4	725.6	609.5	528.4
35°	396.6	469.2	610.7	474.0	409.9
37.5°	292.6	359.1	484.9	361.6	301.1
40°	209.2	257.6	355.5	262.4	209.2
42.5°	134.2	182.6	250.3	183.8	140.3
45°	81.0	114.9	165.7	117.3	79.8
47.5°	36.3	65.3	102.8	67.7	36.3
50°	6.0	26.6	58.0	27.8	7.3
52.5°	3.6	4.8	27.8	4.8	3.6
55°	2.4	2.4	10.9	2.4	2.4
57.5°	2.4	2.4	2.4	2.4	2.4
60°	2.4	1.2	1.2	1.2	2.4
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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