

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: P837342

Luminaire Tested: HCSQ415D010-HM40525930-41SQMW

Issue Date: 5/17/2024

**Test Information**

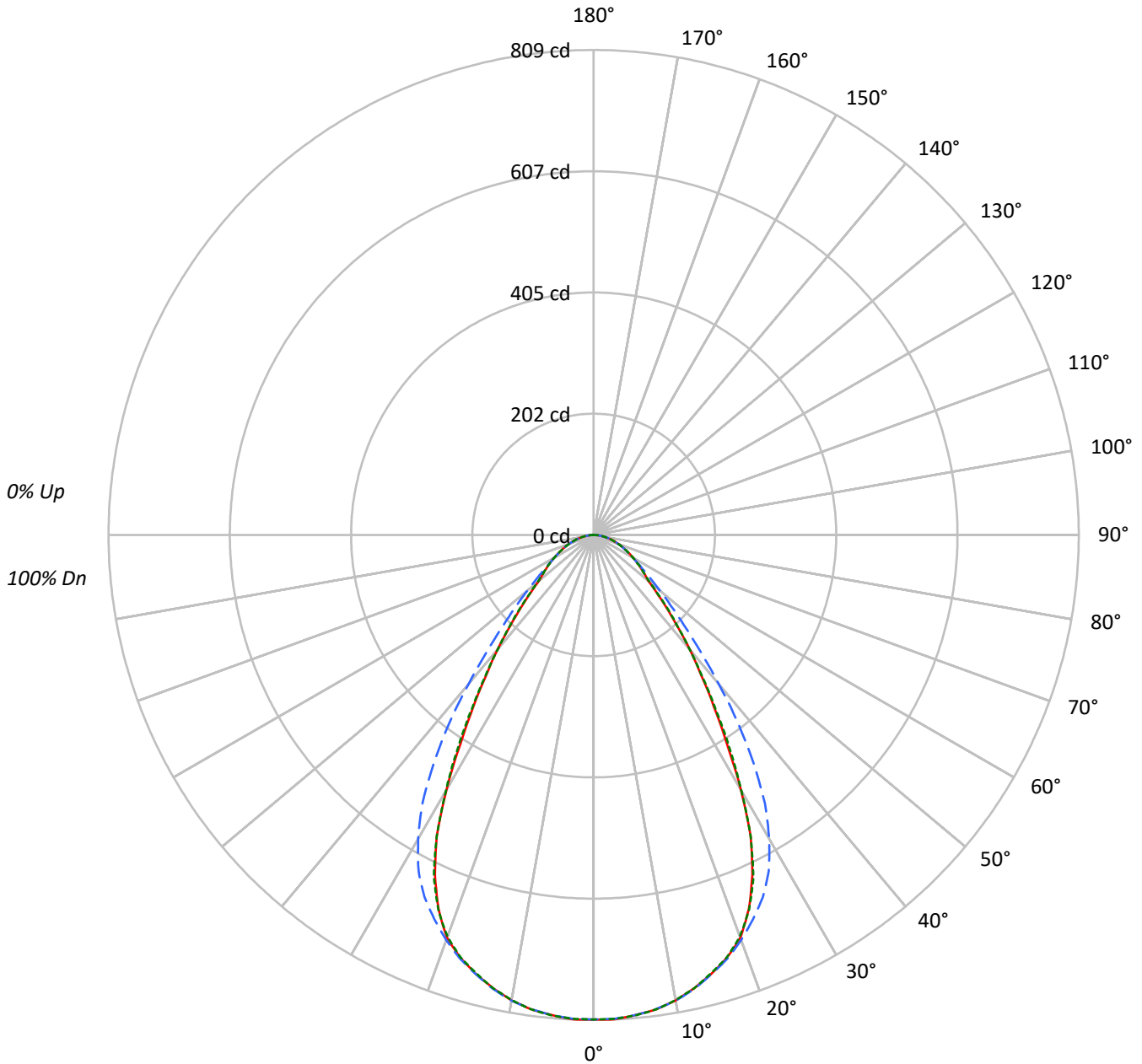
Test Method: LM-79-2019  
Report Number: P837342  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525930-41SQMW  
Description: 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: 1173.2 lumens  
Efficiency: N/A  
Efficacy: 83.8 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): 14  
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	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°	78314	78314	78314
5°	78185	78185	78244
10°	77545	77604	77486
15°	76042	76102	75912
20°	73753	74144	73495
25°	66935	71306	67405
30°	54947	65484	55159
35°	41297	54969	41901
40°	31451	40986	31375
45°	23496	29086	23921
50°	17889	21672	18266
55°	16130	16974	16130
60°	14725	14609	14609
65°	13387	13387	13387
70°	12463	12265	12265
75°	11528	11304	11528
80°	10488	10153	10488
85°	9114	9114	9114

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 29086 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.2	6.5
10°-20°	213.4	18.2
20°-30°	293.5	25.0
30°-40°	249.9	21.3
40°-50°	150.9	12.9
50°-60°	89.0	7.6
60°-70°	58.4	5.0
70°-80°	32.4	2.8
80°-90°	9.5	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°	583.2	49.7
0°-40°	833.1	71.0
0°-60°	1073.0	91.5
0°-90°	1173.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1173.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	808	808	808	808	808	
5°	804	805	804	803	805	76
15°	758	760	759	758	757	213
25°	626	646	667	647	631	283
35°	349	384	465	395	354	221
45°	172	190	212	192	175	135
55°	96	97	100	97	96	86
65°	58	59	58	58	58	58
75°	31	31	30	30	31	33
85°	8	8	8	8	8	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	808.4	808.4	808.4	808.4	808.4
2.5°	809.0	807.1	807.8	807.1	807.8
5°	804.0	804.6	804.0	803.4	804.6
7.5°	798.4	797.7	797.7	797.1	798.4
10°	788.3	787.0	788.9	787.7	787.7
12.5°	774.5	776.4	775.7	775.7	774.5
15°	758.2	760.0	758.8	758.2	756.9
17.5°	739.3	740.6	741.2	738.7	738.7
20°	715.4	718.0	719.2	714.8	712.9
22.5°	675.9	687.2	694.1	686.5	677.1
25°	626.2	645.7	667.1	647.0	630.6
27.5°	566.6	594.2	632.5	598.6	566.6
30°	491.2	532.0	585.4	536.4	493.1
32.5°	413.3	456.6	531.4	464.2	422.1
35°	349.2	384.4	464.8	395.1	354.3
37.5°	294.0	324.1	395.1	331.0	297.1
40°	248.7	272.6	324.1	275.7	248.1
42.5°	205.4	228.0	262.6	231.2	207.9
45°	171.5	189.7	212.3	191.6	174.6
47.5°	142.6	157.7	174.0	157.7	144.5
50°	118.7	130.7	143.8	130.7	121.2
52.5°	106.2	109.9	118.7	110.6	106.2
55°	95.5	97.4	100.5	97.4	95.5
57.5°	85.4	86.7	86.1	86.1	85.4
60°	76.0	76.6	75.4	76.0	75.4
62.5°	67.2	67.2	66.0	67.2	66.6
65°	58.4	59.0	58.4	58.4	58.4
67.5°	50.9	50.9	50.3	50.9	50.9
70°	44.0	44.0	43.3	44.0	43.3
72.5°	37.1	37.1	36.4	36.4	36.4
75°	30.8	30.8	30.2	30.2	30.8
77.5°	24.5	24.5	23.9	24.5	24.5
80°	18.8	18.8	18.2	18.8	18.8
82.5°	13.2	13.2	13.2	13.8	13.8
85°	8.2	8.2	8.2	8.2	8.2
87.5°	3.8	3.8	3.8	3.8	4.4
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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