

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: P837347

Luminaire Tested: HCSQ415D010-HM40525935-41SQMW

Issue Date: 5/17/2024

**Test Information**

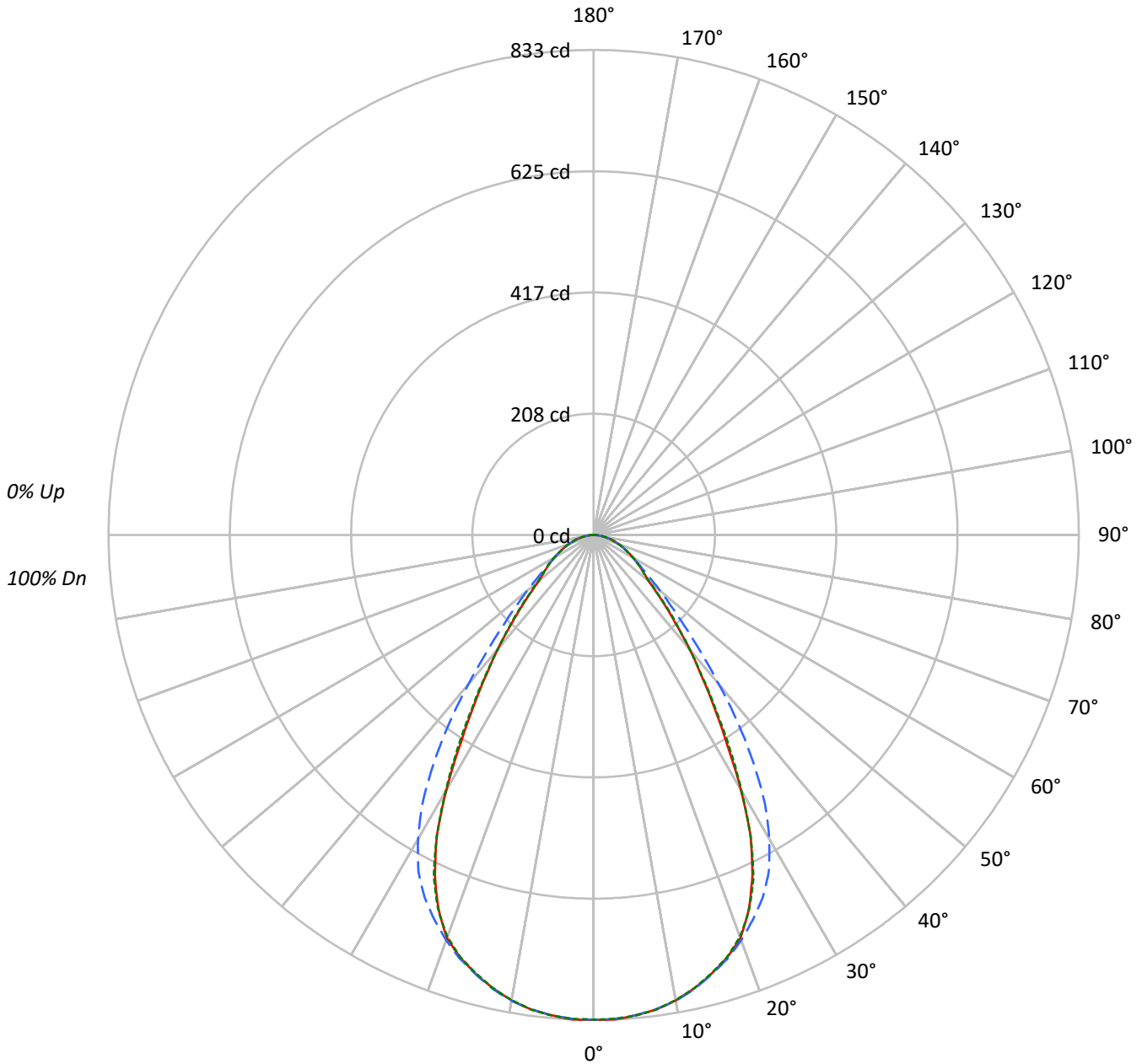
Test Method: LM-79-2019  
Report Number: P837347  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525935-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1208.3 lumens  
Efficiency: N/A  
Efficacy: 86.3 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°	80658	80658	80658
5°	80529	80529	80597
10°	79867	79935	79807
15°	78319	78379	78188
20°	75969	76371	75701
25°	68944	73444	69425
30°	56591	67453	56815
35°	42539	56624	43154
40°	32400	42213	32311
45°	24195	29962	24647
50°	18432	22335	18824
55°	16603	17481	16603
60°	15171	15035	15035
65°	13799	13799	13799
70°	12831	12633	12633
75°	11865	11641	11865
80°	10823	10488	10823
85°	9337	9337	9337

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 29962 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	6.5
10°-20°	219.8	18.2
20°-30°	302.3	25.0
30°-40°	257.4	21.3
40°-50°	155.5	12.9
50°-60°	91.6	7.6
60°-70°	60.1	5.0
70°-80°	33.3	2.8
80°-90°	9.7	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°	600.7	49.7
0°-40°	858.1	71.0
0°-60°	1105.2	91.5
0°-90°	1208.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1208.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	833	833	833	833	833	
5°	828	829	828	828	829	79
15°	781	783	782	781	780	220
25°	645	665	687	666	650	292
35°	360	396	479	407	365	228
45°	177	195	219	197	180	139
55°	98	100	104	100	98	88
65°	60	61	60	60	60	60
75°	32	32	31	31	32	34
85°	8	8	8	8	8	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	832.6	832.6	832.6	832.6	832.6
2.5°	833.3	831.3	832.0	831.3	832.0
5°	828.1	828.8	828.1	827.5	828.8
7.5°	822.3	821.6	821.6	821.0	822.3
10°	811.9	810.6	812.6	811.3	811.3
12.5°	797.7	799.6	799.0	799.0	797.7
15°	780.9	782.8	781.5	780.9	779.6
17.5°	761.5	762.8	763.4	760.8	760.8
20°	736.9	739.5	740.8	736.2	734.3
22.5°	696.1	707.8	714.9	707.1	697.4
25°	645.0	665.1	687.1	666.4	649.5
27.5°	583.6	612.0	651.5	616.6	583.6
30°	505.9	548.0	603.0	552.5	507.9
32.5°	425.7	470.3	547.3	478.1	434.8
35°	359.7	395.9	478.8	406.9	364.9
37.5°	302.8	333.8	406.9	340.9	306.0
40°	256.2	280.8	333.8	284.0	255.5
42.5°	211.6	234.8	270.4	238.1	214.1
45°	176.6	195.4	218.7	197.3	179.9
47.5°	146.9	162.4	179.2	162.4	148.8
50°	122.3	134.6	148.2	134.6	124.9
52.5°	109.3	113.2	122.3	113.9	109.3
55°	98.3	100.3	103.5	100.3	98.3
57.5°	88.0	89.3	88.6	88.6	88.0
60°	78.3	78.9	77.6	78.3	77.6
62.5°	69.2	69.2	67.9	69.2	68.6
65°	60.2	60.8	60.2	60.2	60.2
67.5°	52.4	52.4	51.8	52.4	52.4
70°	45.3	45.3	44.6	45.3	44.6
72.5°	38.2	38.2	37.5	37.5	37.5
75°	31.7	31.7	31.1	31.1	31.7
77.5°	25.2	25.2	24.6	25.2	25.2
80°	19.4	19.4	18.8	19.4	19.4
82.5°	13.6	13.6	13.6	14.2	14.2
85°	8.4	8.4	8.4	8.4	8.4
87.5°	3.9	3.9	3.9	3.9	4.5
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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