

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: P837257

Luminaire Tested: HCSQ407D010-HM40525927-41SQMW

Issue Date: 5/17/2024



**Test Information**

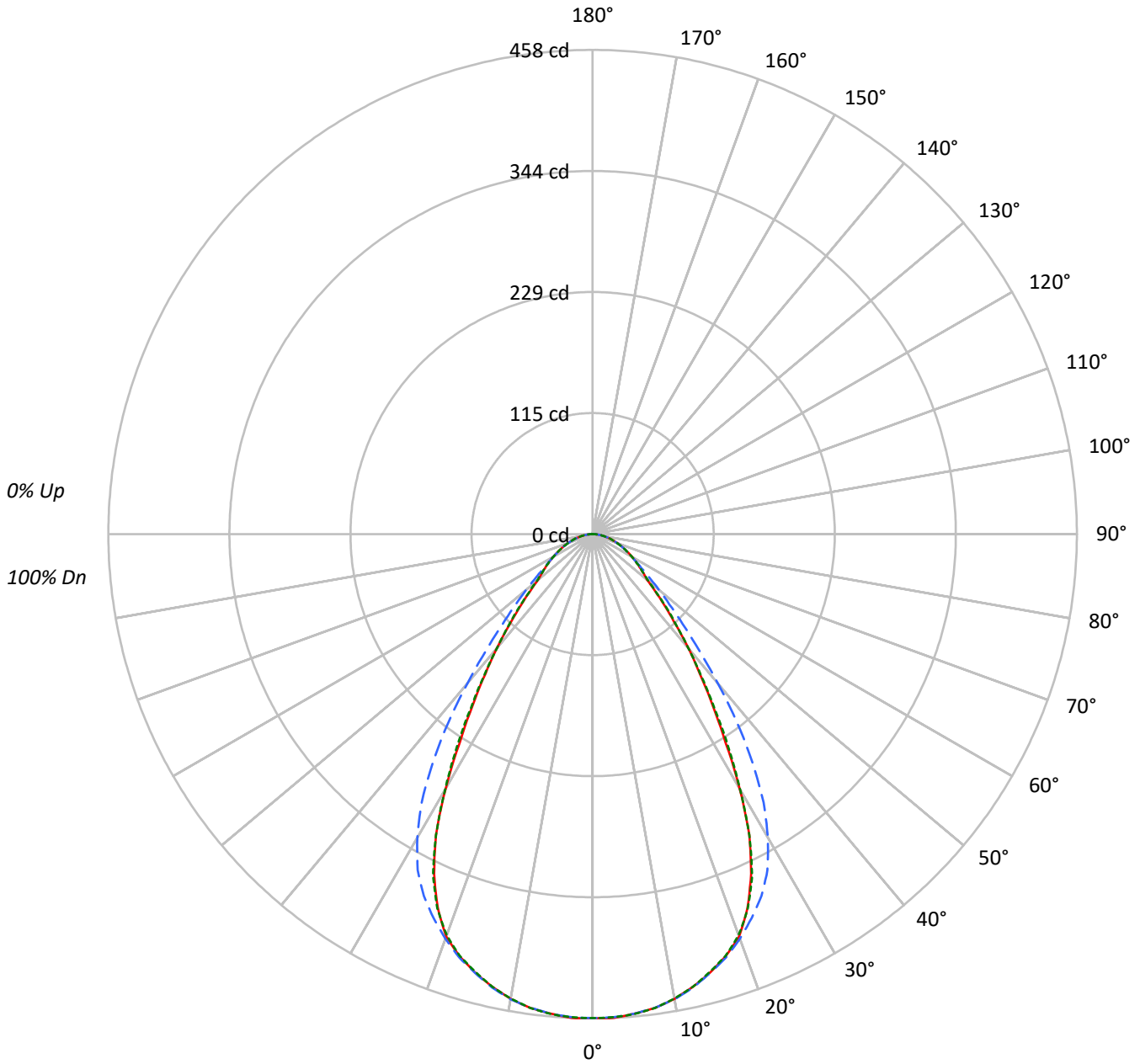
Test Method: LM-79-2019  
Report Number: P837257  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ407D010-HM40525927-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 664.4 lumens  
Efficiency: N/A  
Efficacy: 83.0 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): 8  
Input Voltage (V): NR  
Input Current (Ain): 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	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°	44350	44350	44350
5°	44276	44276	44315
10°	43912	43952	43883
15°	43066	43096	42986
20°	41773	41990	41619
25°	37914	40383	38170
30°	31120	37082	31232
35°	23392	31127	23724
40°	17818	23218	17768
45°	13303	16468	13550
50°	10128	12283	10354
55°	9137	9610	9137
60°	8331	8273	8273
65°	7587	7587	7587
70°	7053	6939	6939
75°	6513	6400	6513
80°	5969	5746	5969
85°	5113	5113	5113

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 16468 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.2	6.5
10°-20°	120.9	18.2
20°-30°	166.2	25.0
30°-40°	141.5	21.3
40°-50°	85.5	12.9
50°-60°	50.4	7.6
60°-70°	33.0	5.0
70°-80°	18.3	2.8
80°-90°	5.3	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°	330.3	49.7
0°-40°	471.8	71.0
0°-60°	607.7	91.5
0°-90°	664.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	664.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	458	458	458	458	458	
5°	455	456	455	455	456	43
15°	429	430	430	429	429	121
25°	355	366	378	366	357	160
35°	198	218	263	224	201	125
45°	97	107	120	108	99	76
55°	54	55	57	55	54	49
65°	33	33	33	33	33	33
75°	17	17	17	17	17	18
85°	5	5	5	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	457.8	457.8	457.8	457.8	457.8
2.5°	458.2	457.1	457.5	457.1	457.5
5°	455.3	455.7	455.3	455.0	455.7
7.5°	452.1	451.8	451.8	451.4	452.1
10°	446.4	445.7	446.8	446.1	446.1
12.5°	438.6	439.7	439.3	439.3	438.6
15°	429.4	430.4	429.7	429.4	428.6
17.5°	418.7	419.4	419.8	418.3	418.3
20°	405.2	406.6	407.3	404.8	403.7
22.5°	382.8	389.2	393.1	388.8	383.5
25°	354.7	365.7	377.8	366.4	357.1
27.5°	320.9	336.5	358.2	339.0	320.9
30°	278.2	301.3	331.5	303.8	279.2
32.5°	234.1	258.6	300.9	262.9	239.0
35°	197.8	217.7	263.2	223.8	200.6
37.5°	166.5	183.6	223.8	187.5	168.3
40°	140.9	154.4	183.6	156.2	140.5
42.5°	116.3	129.1	148.7	130.9	117.7
45°	97.1	107.4	120.2	108.5	98.9
47.5°	80.7	89.3	98.5	89.3	81.8
50°	67.2	74.0	81.5	74.0	68.7
52.5°	60.1	62.3	67.2	62.6	60.1
55°	54.1	55.1	56.9	55.1	54.1
57.5°	48.4	49.1	48.7	48.7	48.4
60°	43.0	43.4	42.7	43.0	42.7
62.5°	38.1	38.1	37.4	38.1	37.7
65°	33.1	33.4	33.1	33.1	33.1
67.5°	28.8	28.8	28.5	28.8	28.8
70°	24.9	24.9	24.5	24.9	24.5
72.5°	21.0	21.0	20.6	20.6	20.6
75°	17.4	17.4	17.1	17.1	17.4
77.5°	13.9	13.9	13.5	13.9	13.9
80°	10.7	10.7	10.3	10.7	10.7
82.5°	7.5	7.5	7.5	7.8	7.8
85°	4.6	4.6	4.6	4.6	4.6
87.5°	2.1	2.1	2.1	2.1	2.5
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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(END OF REPORT)