

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: P837261

Luminaire Tested: HCSQ407D010-HM40525930-41SQMB

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837261  
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: HCSQ407D010-HM40525930-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

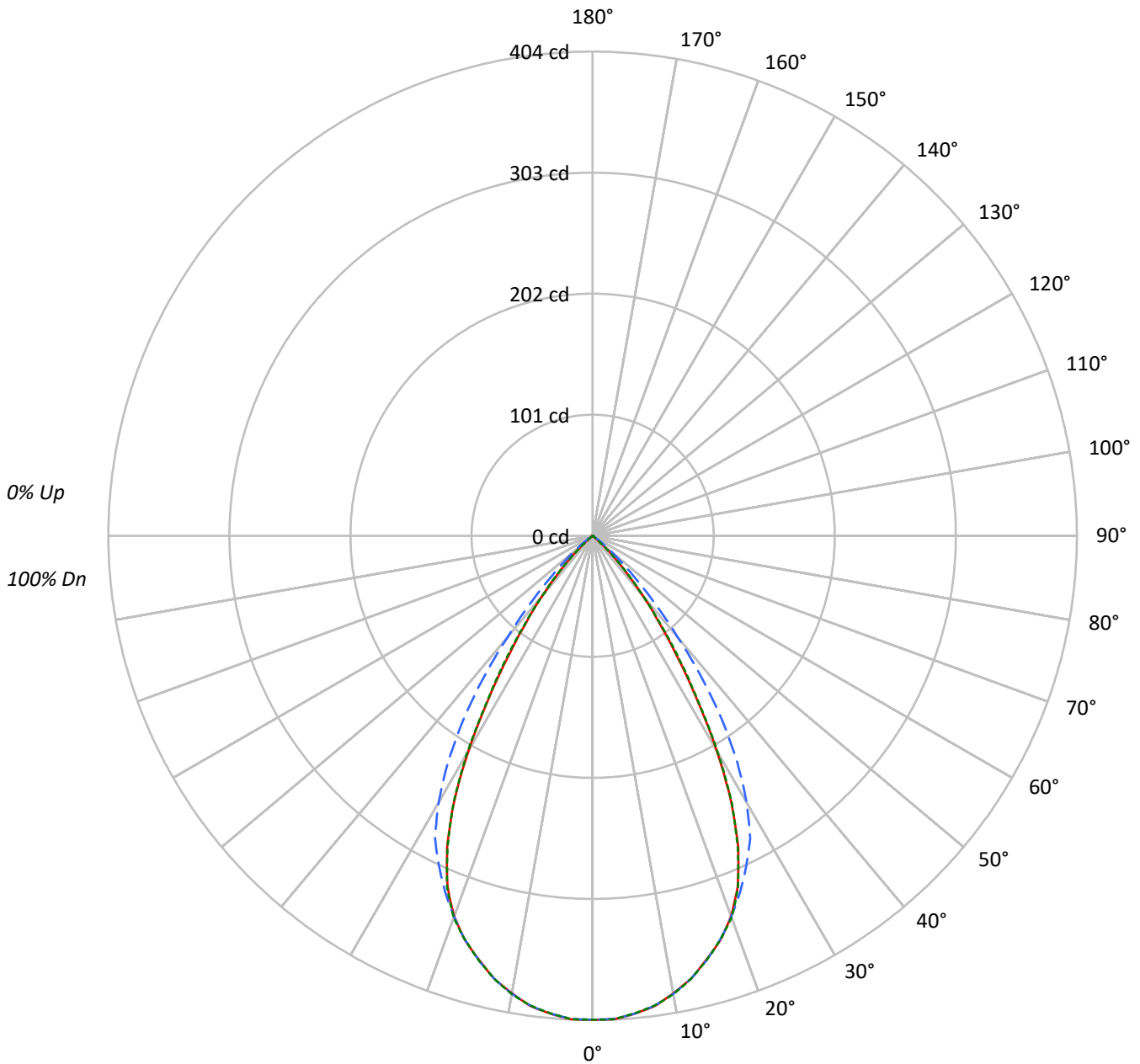
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 403.4 lumens  
Efficiency: N/A  
Efficacy: 50.4 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): 8  
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					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	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°	39118	39118	39118
5°	38937	38937	38898
10°	38138	38168	38207
15°	36737	36777	36777
20°	34825	34866	34948
25°	30710	32430	30592
30°	23167	28737	23379
35°	14535	22364	15019
40°	8195	13923	8195
45°	3439	7028	3384
50°	286	2713	332
55°	118	574	118
60°	136	78	136
65°	92	92	92
70°	113	113	113
75°	150	150	150
80°	0	223	223
85°	0	445	445

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 7028 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.8	9.4
10°-20°	102.9	25.5
20°-30°	133.6	33.1
30°-40°	94.9	23.5
40°-50°	30.8	7.6
50°-60°	2.2	0.5
60°-70°	0.4	0.1
70°-80°	0.4	0.1
80°-90°	0.3	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°	274.3	68.0
0°-40°	369.3	91.6
0°-60°	402.3	99.7
0°-90°	403.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	403.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	404	404	404	404	404	
5°	400	401	400	400	400	38
15°	366	367	367	367	367	103
25°	287	295	303	296	286	129
35°	123	145	189	147	127	79
45°	25	36	51	36	25	21
55°	1	1	3	1	1	1
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	403.8	403.8	403.8	403.8	403.8
2.5°	403.8	403.8	403.4	403.4	403.8
5°	400.4	400.8	400.4	400.4	400.0
7.5°	395.9	395.9	395.5	395.5	395.5
10°	387.7	388.0	388.0	388.0	388.4
12.5°	378.7	378.7	378.7	378.7	378.7
15°	366.3	367.4	366.7	367.4	366.7
17.5°	354.0	354.0	353.6	354.3	353.6
20°	337.8	337.8	338.2	339.0	339.0
22.5°	316.5	320.2	321.7	321.0	317.2
25°	287.3	294.8	303.4	296.3	286.2
27.5°	250.6	264.8	284.7	267.1	251.3
30°	207.1	228.5	256.9	229.2	209.0
32.5°	162.2	186.9	224.7	188.8	163.7
35°	122.9	145.3	189.1	146.8	127.0
37.5°	90.6	111.2	150.2	112.0	93.3
40°	64.8	79.8	110.1	81.3	64.8
42.5°	41.6	56.6	77.5	56.9	43.4
45°	25.1	35.6	51.3	36.3	24.7
47.5°	11.2	20.2	31.8	21.0	11.2
50°	1.9	8.2	18.0	8.6	2.2
52.5°	1.1	1.5	8.6	1.5	1.1
55°	0.7	0.7	3.4	0.7	0.7
57.5°	0.7	0.7	0.7	0.7	0.7
60°	0.7	0.4	0.4	0.4	0.7
62.5°	0.4	0.4	0.4	0.4	0.4
65°	0.4	0.4	0.4	0.4	0.4
67.5°	0.4	0.4	0.4	0.4	0.4
70°	0.4	0.4	0.4	0.4	0.4
72.5°	0.4	0.4	0.4	0.4	0.4
75°	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4
80°	0.0	0.4	0.4	0.4	0.4
82.5°	0.0	0.4	0.4	0.4	0.4
85°	0.0	0.0	0.4	0.4	0.4
87.5°	0.0	0.0	0.4	0.4	0.4
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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