

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: P837266

Luminaire Tested: HCSQ407D010-HM40525935-41SQMB

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837266  
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-HM40525935-41SQMB  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE BLACK TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

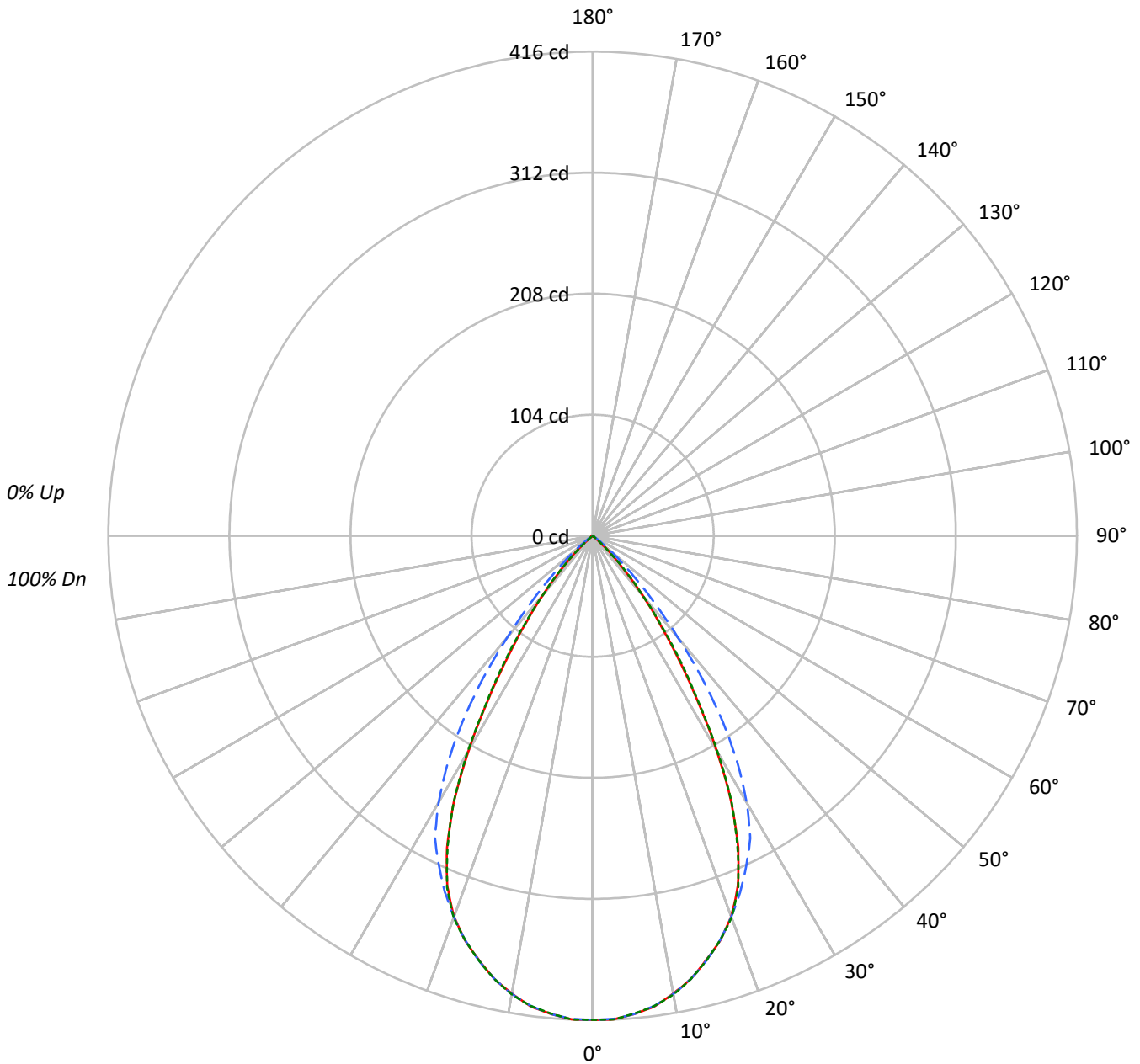
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 415.5 lumens  
Efficiency: N/A  
Efficacy: 51.9 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°	40290	40290	40290
5°	40104	40104	40065
10°	39279	39318	39358
15°	37840	37881	37881
20°	35876	35917	35990
25°	31629	33403	31501
30°	23860	29599	24084
35°	14960	23038	15469
40°	8435	14341	8435
45°	3535	7247	3494
50°	286	2788	347
55°	135	591	135
60°	155	78	155
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: 7247 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.0	9.4
10°-20°	106.0	25.5
20°-30°	137.6	33.1
30°-40°	97.8	23.5
40°-50°	31.7	7.6
50°-60°	2.3	0.6
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°	282.6	68.0
0°-40°	380.4	91.5
0°-60°	414.4	99.7
0°-90°	415.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	415.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	416	416	416	416	416	
5°	412	413	412	412	412	39
15°	377	378	378	378	378	106
25°	296	304	312	305	295	132
35°	126	150	195	151	131	81
45°	26	37	53	37	26	21
55°	1	1	4	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°	415.9	415.9	415.9	415.9	415.9
2.5°	415.9	415.9	415.5	415.5	415.9
5°	412.4	412.8	412.4	412.4	412.0
7.5°	407.8	407.8	407.4	407.4	407.4
10°	399.3	399.7	399.7	399.7	400.1
12.5°	390.0	390.0	390.0	390.0	390.0
15°	377.3	378.5	377.7	378.5	377.7
17.5°	364.6	364.6	364.2	365.0	364.2
20°	348.0	348.0	348.4	349.1	349.1
22.5°	326.0	329.8	331.4	330.6	326.8
25°	295.9	303.6	312.5	305.2	294.7
27.5°	258.1	272.7	293.2	275.1	258.9
30°	213.3	235.3	264.6	236.1	215.3
32.5°	167.0	192.5	231.5	194.4	168.6
35°	126.5	149.7	194.8	151.2	130.8
37.5°	93.4	114.6	154.7	115.3	96.1
40°	66.7	82.2	113.4	83.7	66.7
42.5°	42.8	58.3	79.9	58.6	44.8
45°	25.8	36.6	52.9	37.4	25.5
47.5°	11.6	20.8	32.8	21.6	11.6
50°	1.9	8.5	18.5	8.9	2.3
52.5°	1.2	1.5	8.9	1.5	1.2
55°	0.8	0.8	3.5	0.8	0.8
57.5°	0.8	0.8	0.8	0.8	0.8
60°	0.8	0.4	0.4	0.4	0.8
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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