

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: P837249

Luminaire Tested: HCSQ407D010-HM40525840-41SQH

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837249  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ407D010-HM40525840-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

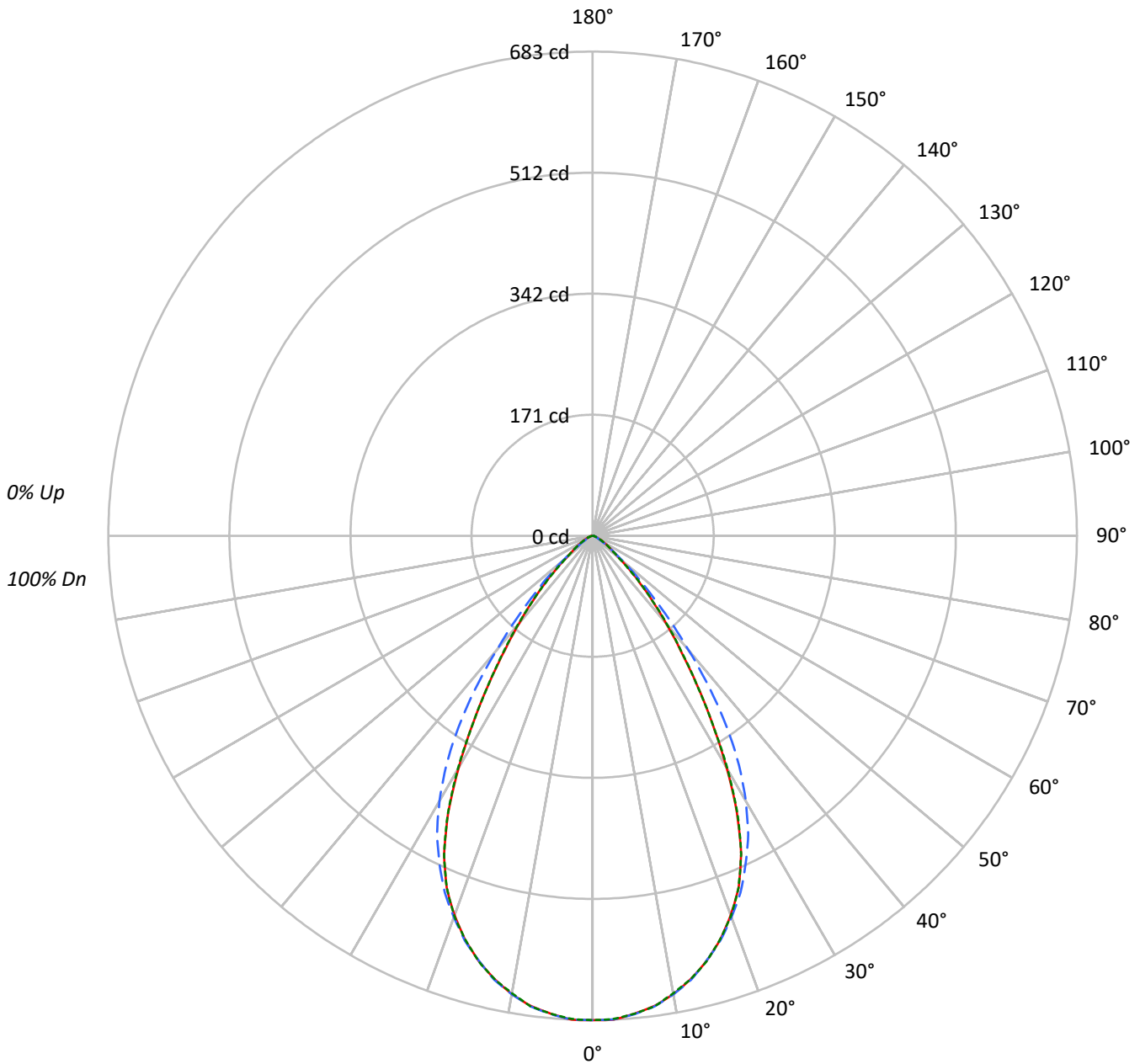
Lumens per Lamp: N/A  
Luminaire Lumens: 768.2 lumens  
Efficiency: N/A  
Efficacy: 96.0 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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					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	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	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92													
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85													
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77													
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71													
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65													
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60													
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56													
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52													
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48													
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45													

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	66205	66205	66205
5°	65806	65884	65806
10°	64570	64609	64442
15°	62282	62232	62322
20°	58711	59010	58835
25°	52975	54600	52975
30°	42306	48302	42642
35°	30204	39086	30252
40°	20398	26582	20714
45°	12960	15728	13015
50°	7385	8395	7129
55°	4847	4070	4780
60°	3352	2364	3274
65°	2315	1742	2315
70°	1671	1303	1671
75°	1123	1123	1123
80°	725	948	948
85°	889	889	889

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 15728 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.0	8.3
10°-20°	174.1	22.7
20°-30°	227.9	29.7
30°-40°	179.2	23.3
40°-50°	83.7	10.9
50°-60°	25.9	3.4
60°-70°	9.3	1.2
70°-80°	3.3	0.4
80°-90°	0.9	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°	466.1	60.7
0°-40°	645.2	84.0
0°-60°	754.8	98.3
0°-90°	768.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	768.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	683	683	683	683	683	
5°	677	677	678	678	677	64
15°	621	621	620	621	621	174
25°	496	502	511	503	496	223
35°	255	279	330	282	256	161
45°	95	106	115	104	95	75
55°	29	27	24	27	28	27
65°	10	9	8	9	10	11
75°	3	3	3	3	3	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	683.4	683.4	683.4	683.4	683.4
2.5°	683.4	682.6	683.0	682.2	682.2
5°	676.7	677.1	677.5	678.4	676.7
7.5°	669.1	669.9	669.5	669.5	669.5
10°	656.4	656.8	656.8	656.8	655.1
12.5°	640.4	641.2	641.6	640.4	640.4
15°	621.0	621.0	620.5	621.0	621.4
17.5°	597.7	599.0	599.0	597.7	597.3
20°	569.5	571.6	572.4	570.7	570.7
22.5°	537.8	539.9	545.0	540.7	537.4
25°	495.6	502.3	510.8	502.8	495.6
27.5°	441.1	455.9	475.3	458.4	442.4
30°	378.2	402.3	431.8	403.6	381.2
32.5°	314.1	341.1	384.6	343.2	314.1
35°	255.4	278.6	330.5	282.0	255.8
37.5°	203.0	225.4	271.0	228.0	206.0
40°	161.3	179.4	210.2	179.0	163.8
42.5°	125.8	138.9	159.1	138.5	125.4
45°	94.6	106.0	114.8	103.8	95.0
47.5°	69.7	77.2	82.3	76.0	68.0
50°	49.0	54.5	55.7	53.2	47.3
52.5°	36.7	36.7	37.1	36.3	35.9
55°	28.7	27.0	24.1	26.6	28.3
57.5°	22.4	20.7	16.9	19.8	22.0
60°	17.3	15.6	12.2	15.2	16.9
62.5°	13.5	11.8	9.7	11.8	13.1
65°	10.1	9.3	7.6	8.9	10.1
67.5°	7.6	6.8	5.9	6.8	7.6
70°	5.9	5.5	4.6	5.1	5.9
72.5°	4.2	3.8	3.8	3.8	4.2
75°	3.0	3.0	3.0	3.0	3.0
77.5°	2.1	2.1	2.1	2.1	2.1
80°	1.3	1.3	1.7	1.7	1.7
82.5°	0.8	0.8	1.3	1.3	1.3
85°	0.8	0.8	0.8	0.8	0.8
87.5°	0.4	0.4	0.4	0.8	0.8
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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