

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: P837639

Luminaire Tested: HCSQ455D010-HM44560830-41SQH

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837639  
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: HCSQ455D010-HM44560830-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: -

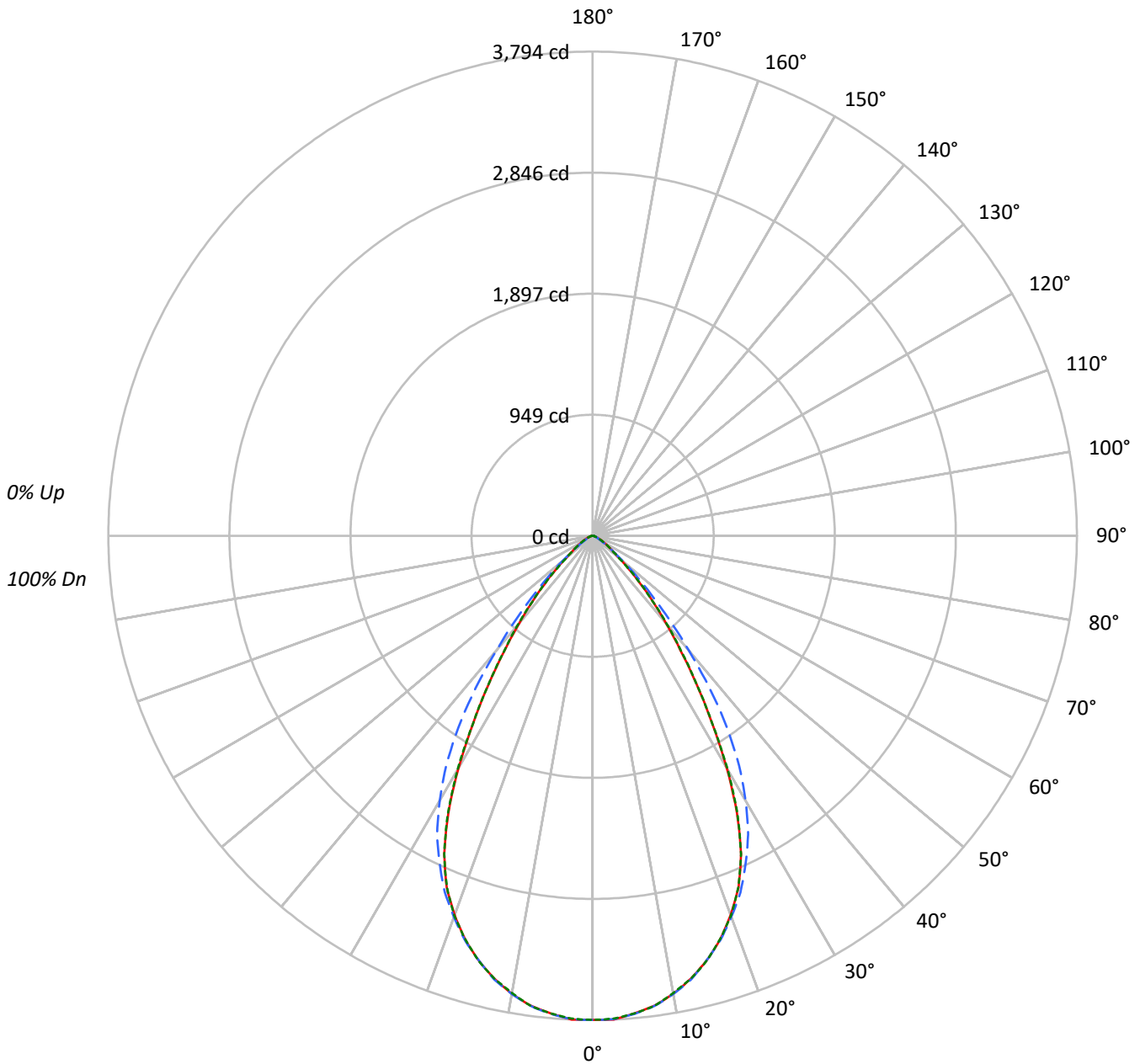
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4265.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 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): 54  
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	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°	367565	367565	367565
5°	365322	365779	365322
10°	358480	358706	357781
15°	345739	345509	345980
20°	325917	327608	326639
25°	294087	303109	294087
30°	234888	268178	236723
35°	167673	217013	167957
40°	113209	147594	114992
45°	71913	87325	72241
50°	40963	46615	39562
55°	26922	22565	26517
60°	18619	13175	18154
65°	12883	9673	12883
70°	9290	7308	9290
75°	6138	6138	6138
80°	3905	5244	5244
85°	5224	5224	5224

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 87325 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	355.5	8.3
10°-20°	966.5	22.7
20°-30°	1265.4	29.7
30°-40°	994.6	23.3
40°-50°	464.6	10.9
50°-60°	144.0	3.4
60°-70°	51.4	1.2
70°-80°	18.1	0.4
80°-90°	5.0	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°	2587.4	60.7
0°-40°	3582.0	84.0
0°-60°	4190.5	98.3
0°-90°	4265.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4265.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3794	3794	3794	3794	3794	
5°	3757	3759	3761	3766	3757	355
15°	3447	3447	3445	3447	3450	966
25°	2751	2789	2836	2791	2751	1237
35°	1418	1547	1835	1566	1420	894
45°	525	588	637	576	527	418
55°	159	150	134	148	157	149
65°	56	52	42	49	56	59
75°	16	16	16	16	16	19
85°	5	5	5	5	5	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3794.2	3794.2	3794.2	3794.2	3794.2
2.5°	3794.2	3789.5	3791.8	3787.1	3787.1
5°	3756.7	3759.0	3761.4	3766.0	3756.7
7.5°	3714.5	3719.2	3716.8	3716.8	3716.8
10°	3644.2	3646.5	3646.5	3646.5	3637.1
12.5°	3555.1	3559.8	3562.2	3555.1	3555.1
15°	3447.3	3447.3	3445.0	3447.3	3449.7
17.5°	3318.4	3325.5	3325.5	3318.4	3316.1
20°	3161.4	3173.1	3177.8	3168.4	3168.4
22.5°	2985.6	2997.4	3025.5	3002.1	2983.3
25°	2751.3	2788.8	2835.7	2791.1	2751.3
27.5°	2449.0	2531.0	2638.8	2545.1	2456.0
30°	2099.8	2233.4	2397.4	2240.4	2116.2
32.5°	1743.6	1893.6	2134.9	1905.3	1743.6
35°	1417.8	1546.7	1835.0	1565.5	1420.2
37.5°	1127.2	1251.4	1504.5	1265.5	1143.6
40°	895.2	996.0	1167.1	993.7	909.3
42.5°	698.4	771.0	883.5	768.7	696.0
45°	524.9	588.2	637.4	576.5	527.3
47.5°	386.7	428.9	457.0	421.8	377.3
50°	271.8	302.3	309.3	295.3	262.5
52.5°	203.9	203.9	206.2	201.5	199.2
55°	159.4	150.0	133.6	147.6	157.0
57.5°	124.2	114.8	93.7	110.1	121.9
60°	96.1	86.7	68.0	84.4	93.7
62.5°	75.0	65.6	53.9	65.6	72.6
65°	56.2	51.6	42.2	49.2	56.2
67.5°	42.2	37.5	32.8	37.5	42.2
70°	32.8	30.5	25.8	28.1	32.8
72.5°	23.4	21.1	21.1	21.1	23.4
75°	16.4	16.4	16.4	16.4	16.4
77.5°	11.7	11.7	11.7	11.7	11.7
80°	7.0	7.0	9.4	9.4	9.4
82.5°	4.7	4.7	7.0	7.0	7.0
85°	4.7	4.7	4.7	4.7	4.7
87.5°	2.3	2.3	2.3	4.7	4.7
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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