

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: P837334

Luminaire Tested: HCSQ415D010-HM40525927-41SQH

Issue Date: 5/17/2024



**Test Information**

Test Method: LM-79-2019  
Report Number: P837334  
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: HCSQ415D010-HM40525927-41SQH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

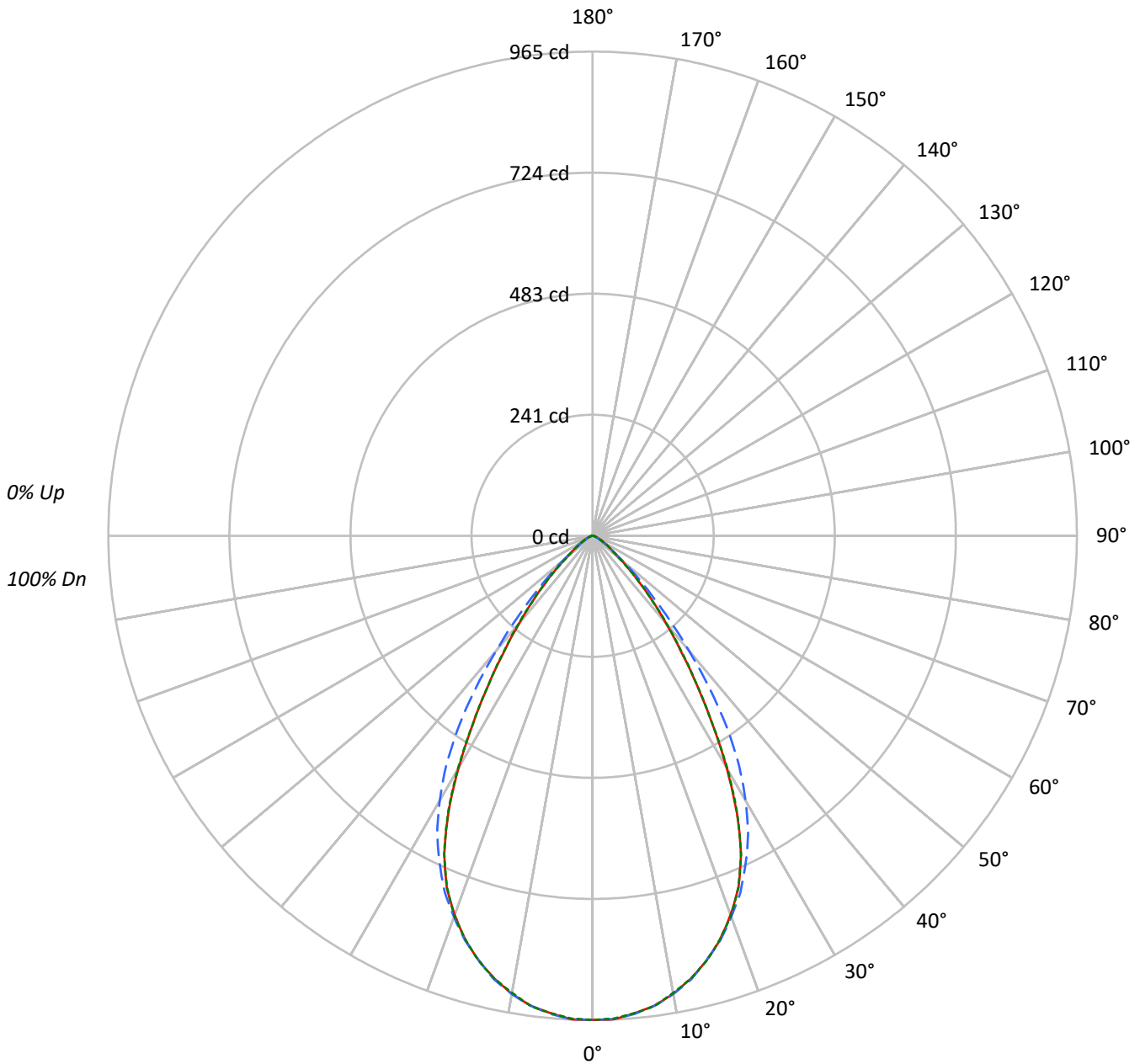
Lumens per Lamp: N/A  
Luminaire Lumens: 1084.6 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 14  
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°	93465	93465	93465
5°	92899	93015	92899
10°	91159	91218	90982
15°	87917	87857	87977
20°	82876	83309	83062
25°	74780	77079	74780
30°	59734	68191	60193
35°	42634	55182	42705
40°	28783	37534	29238
45°	18290	22208	18372
50°	10414	11861	10052
55°	6840	5743	6739
60°	4728	3352	4611
65°	3278	2453	3278
70°	2351	1869	2351
75°	1572	1572	1572
80°	1004	1339	1339
85°	1334	1334	1334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 22208 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.4	8.3
10°-20°	245.8	22.7
20°-30°	321.8	29.7
30°-40°	252.9	23.3
40°-50°	118.1	10.9
50°-60°	36.6	3.4
60°-70°	13.1	1.2
70°-80°	4.6	0.4
80°-90°	1.3	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°	658.0	60.7
0°-40°	910.9	84.0
0°-60°	1065.6	98.3
0°-90°	1084.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1084.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	955	956	956	958	955	90
15°	877	877	876	877	877	246
25°	700	709	721	710	700	315
35°	360	393	467	398	361	227
45°	134	150	162	147	134	106
55°	40	38	34	38	40	38
65°	14	13	11	12	14	15
75°	4	4	4	4	4	5
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°	964.8	964.8	964.8	964.8	964.8
2.5°	964.8	963.6	964.2	963.0	963.0
5°	955.3	955.9	956.5	957.7	955.3
7.5°	944.6	945.8	945.2	945.2	945.2
10°	926.7	927.3	927.3	927.3	924.9
12.5°	904.0	905.2	905.8	904.0	904.0
15°	876.6	876.6	876.0	876.6	877.2
17.5°	843.9	845.6	845.6	843.9	843.3
20°	803.9	806.9	808.1	805.7	805.7
22.5°	759.2	762.2	769.4	763.4	758.6
25°	699.6	709.2	721.1	709.8	699.6
27.5°	622.8	643.6	671.0	647.2	624.5
30°	534.0	567.9	609.6	569.7	538.1
32.5°	443.4	481.5	542.9	484.5	443.4
35°	360.5	393.3	466.6	398.1	361.1
37.5°	286.6	318.2	382.6	321.8	290.8
40°	227.6	253.3	296.8	252.7	231.2
42.5°	177.6	196.1	224.7	195.5	177.0
45°	133.5	149.6	162.1	146.6	134.1
47.5°	98.3	109.1	116.2	107.3	95.9
50°	69.1	76.9	78.7	75.1	66.7
52.5°	51.8	51.8	52.4	51.3	50.7
55°	40.5	38.1	34.0	37.5	39.9
57.5°	31.6	29.2	23.8	28.0	31.0
60°	24.4	22.0	17.3	21.5	23.8
62.5°	19.1	16.7	13.7	16.7	18.5
65°	14.3	13.1	10.7	12.5	14.3
67.5°	10.7	9.5	8.3	9.5	10.7
70°	8.3	7.7	6.6	7.2	8.3
72.5°	6.0	5.4	5.4	5.4	6.0
75°	4.2	4.2	4.2	4.2	4.2
77.5°	3.0	3.0	3.0	3.0	3.0
80°	1.8	1.8	2.4	2.4	2.4
82.5°	1.2	1.2	1.8	1.8	1.8
85°	1.2	1.2	1.2	1.2	1.2
87.5°	0.6	0.6	0.6	1.2	1.2
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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