

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: P837317

Luminaire Tested: HCSQ415D010-HM40525827-41SQMW

Issue Date: 5/17/2024

**Test Information**

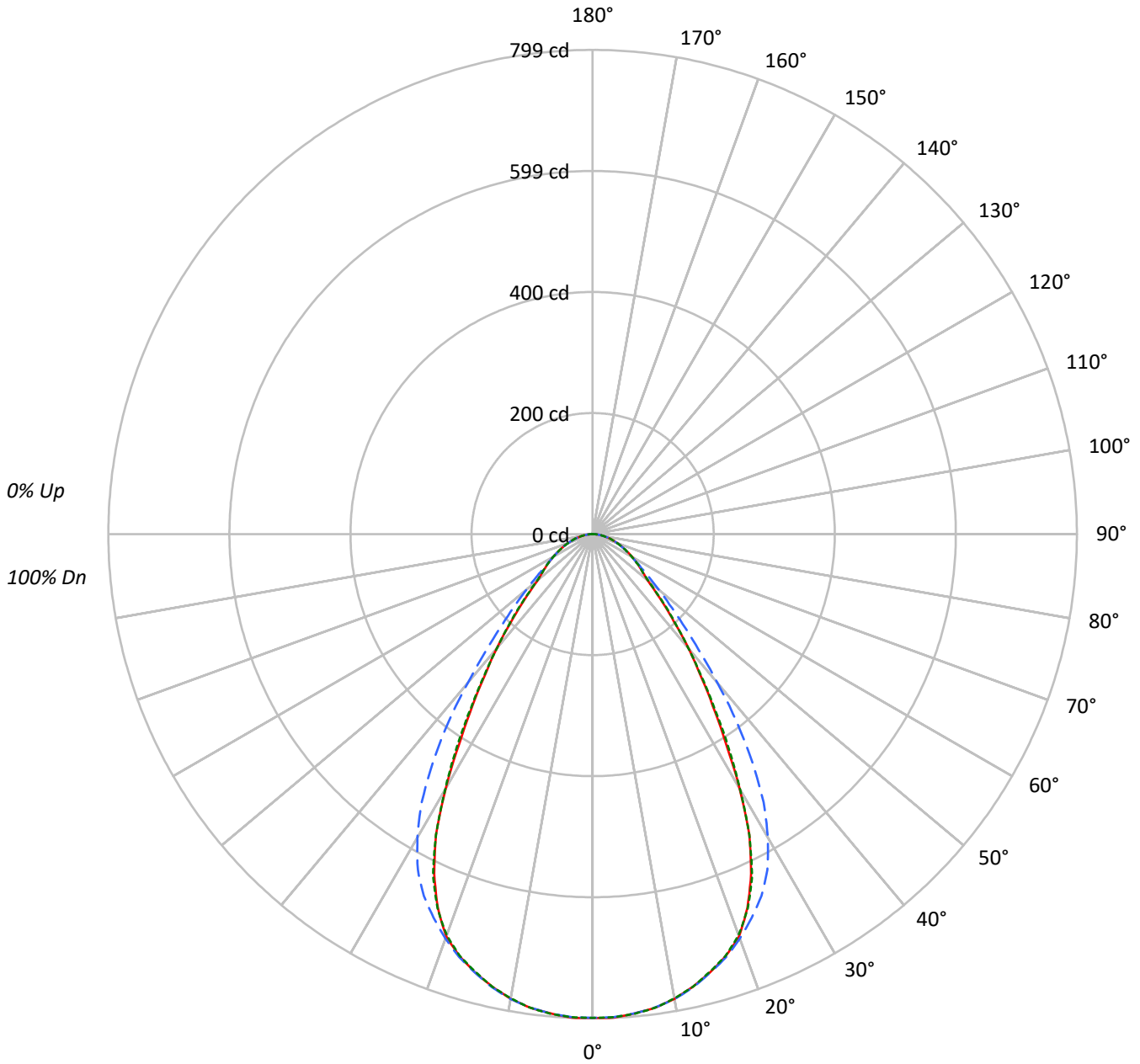
Test Method: LM-79-2019  
Report Number: P837317  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525827-41SQMW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, MATTE WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1158.7 lumens  
Efficiency: N/A  
Efficacy: 82.8 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.07  
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	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79								
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71								
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64								
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58								
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48								
8	70	59	52	47	69	58	51	47	57	51	46	56	50	46	55	50	46	44								
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41								
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	40	38								

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

	0°	45°	90°
0°	77345	77345	77345
5°	77223	77223	77281
10°	76591	76650	76522
15°	75099	75159	74979
20°	72845	73227	72588
25°	66112	70419	66582
30°	54264	64679	54477
35°	40789	54295	41380
40°	31072	40480	30983
45°	23208	28729	23633
50°	17678	21416	18040
55°	15927	16771	15927
60°	14551	14415	14415
65°	13226	13226	13226
70°	12293	12123	12123
75°	11379	11154	11379
80°	10377	10042	10377
85°	9003	9003	9003

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 28729 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.3	6.5
10°-20°	210.8	18.2
20°-30°	289.9	25.0
30°-40°	246.8	21.3
40°-50°	149.1	12.9
50°-60°	87.9	7.6
60°-70°	57.6	5.0
70°-80°	32.0	2.8
80°-90°	9.3	0.8
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°	576.0	49.7
0°-40°	822.8	71.0
0°-60°	1059.8	91.5
0°-90°	1158.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1158.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	798	798	798	798	798	
5°	794	795	794	794	795	75
15°	749	751	749	749	748	211
25°	618	638	659	639	623	280
35°	345	380	459	390	350	218
45°	169	187	210	189	172	133
55°	94	96	99	96	94	85
65°	58	58	58	58	58	58
75°	30	30	30	30	30	32
85°	8	8	8	8	8	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	798.4	798.4	798.4	798.4	798.4
2.5°	799.0	797.2	797.8	797.2	797.8
5°	794.1	794.7	794.1	793.5	794.7
7.5°	788.5	787.9	787.9	787.3	788.5
10°	778.6	777.3	779.2	777.9	777.9
12.5°	764.9	766.8	766.2	766.2	764.9
15°	748.8	750.7	749.4	748.8	747.6
17.5°	730.2	731.4	732.0	729.6	729.6
20°	706.6	709.1	710.3	706.0	704.1
22.5°	667.5	678.7	685.5	678.1	668.8
25°	618.5	637.7	658.8	639.0	622.9
27.5°	559.6	586.9	624.7	591.2	559.6
30°	485.1	525.5	578.2	529.8	487.0
32.5°	408.2	451.0	524.8	458.5	416.9
35°	344.9	379.7	459.1	390.2	349.9
37.5°	290.3	320.1	390.2	326.9	293.4
40°	245.7	269.2	320.1	272.3	245.0
42.5°	202.9	225.2	259.3	228.3	205.3
45°	169.4	187.4	209.7	189.2	172.5
47.5°	140.8	155.7	171.8	155.7	142.7
50°	117.3	129.0	142.1	129.0	119.7
52.5°	104.8	108.6	117.3	109.2	104.8
55°	94.3	96.2	99.3	96.2	94.3
57.5°	84.4	85.6	85.0	85.0	84.4
60°	75.1	75.7	74.4	75.1	74.4
62.5°	66.4	66.4	65.1	66.4	65.8
65°	57.7	58.3	57.7	57.7	57.7
67.5°	50.3	50.3	49.6	50.3	50.3
70°	43.4	43.4	42.8	43.4	42.8
72.5°	36.6	36.6	36.0	36.0	36.0
75°	30.4	30.4	29.8	29.8	30.4
77.5°	24.2	24.2	23.6	24.2	24.2
80°	18.6	18.6	18.0	18.6	18.6
82.5°	13.0	13.0	13.0	13.6	13.6
85°	8.1	8.1	8.1	8.1	8.1
87.5°	3.7	3.7	3.7	3.7	4.3
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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