

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P837315

Luminaire Tested: HCSQ415D010-HM40525827-41SQLWW

Issue Date: 5/17/2024



**Test Information**

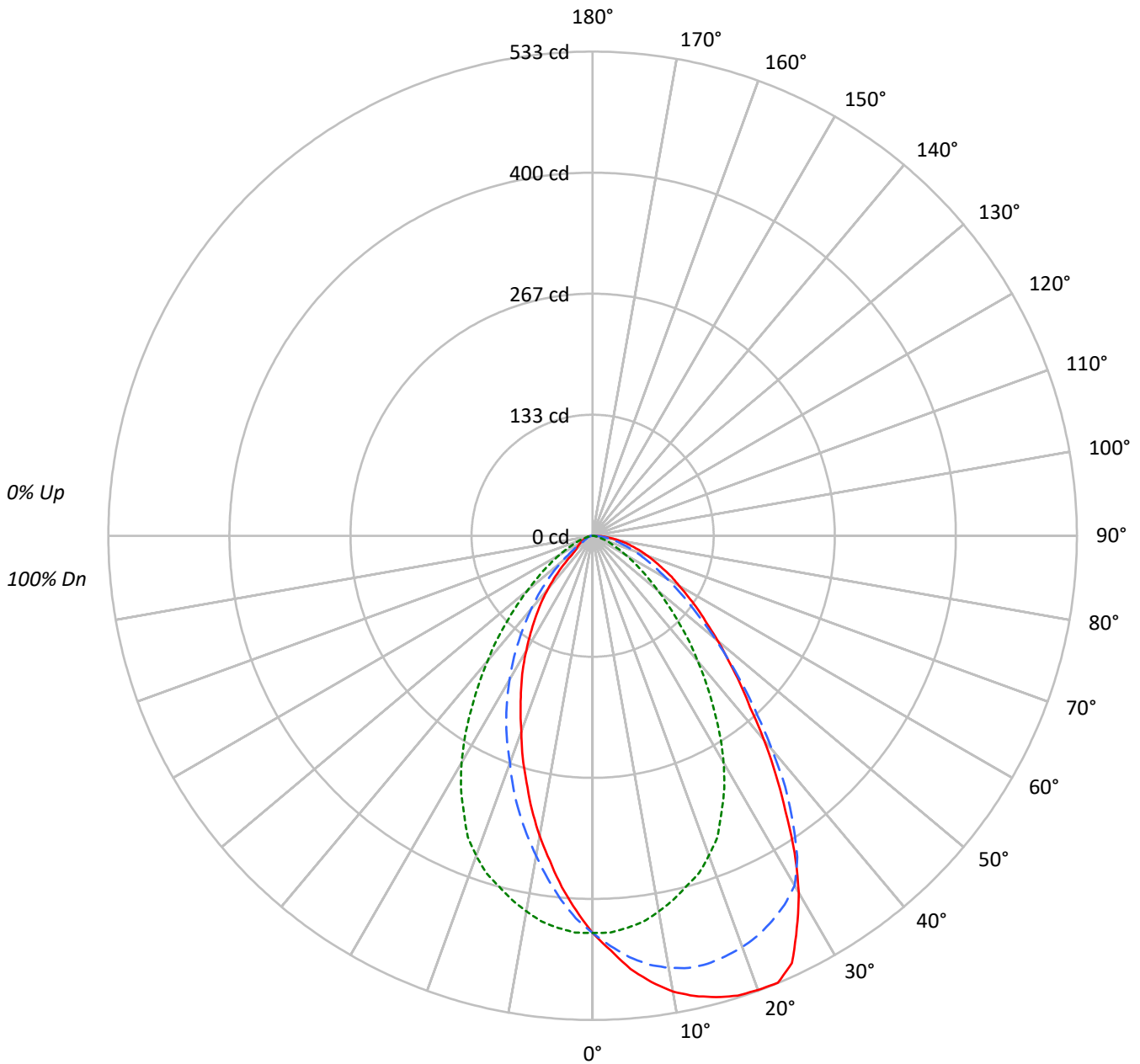
Test Method: LM-79-2019  
Report Number: P837315  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ415D010-HM40525827-41SQLWW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 707.1 lumens  
Efficiency: N/A  
Efficacy: 50.5 lumens/watt  
Spacing Criteria (0/90/45): 1.07 / 1.04 / 1.12  
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 (Ain): 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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	97	91	87	101	95	90	86	92	87	84	88	85	82	86	83	80	78								
3	96	87	81	76	94	86	80	75	83	78	74	81	76	72	78	74	71	69								
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64	72	67	64	62								
5	83	72	65	59	81	71	64	59	69	63	58	68	62	58	66	61	57	55								
6	78	66	59	53	76	66	58	53	64	57	53	62	57	52	61	56	52	50								
7	73	61	54	48	71	60	53	48	59	53	48	58	52	48	56	51	47	45								
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42								
9	64	53	45	40	63	52	45	40	51	45	40	50	44	40	49	44	40	38								
10	61	49	42	37	60	48	42	37	48	41	37	47	41	37	46	41	37	35								

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

	0°	45°	90°	135°	180°
0°	42354	42354	42354	42354	42354
5°	46551	45287	42146	39073	37751
10°	50139	47513	41296	35197	33003
15°	52734	48943	40047	31472	28172
20°	54845	49670	38608	27423	23649
25°	55476	49971	35862	24061	19882
30°	50774	49734	32250	20460	16298
35°	43781	45389	27496	16793	12903
40°	37091	38811	22738	13253	9649
45°	31428	32196	18180	9850	6206
50°	27098	26450	14107	6631	3738
55°	23882	21788	10793	3665	3344
60°	21274	18271	8041	2034	3003
65°	19484	15633	5960	1857	2705
70°	18099	13511	4390	1756	2634
75°	16956	11828	3032	1609	2321
80°	16234	10377	2064	1729	2064
85°	15895	9003	1334	1334	1334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 32703 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.0	5.8
10°-20°	112.9	16.0
20°-30°	157.8	22.3
30°-40°	154.2	21.8
40°-50°	111.9	15.8
50°-60°	67.5	9.5
60°-70°	37.9	5.4
70°-80°	18.8	2.7
80°-90°	5.1	0.7
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°	311.6	44.1
0°-40°	465.9	65.9
0°-60°	645.3	91.3
0°-90°	707.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	707.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	437	437	437	437	437	
5°	479	466	433	402	388	47
15°	526	488	399	314	281	149
25°	519	468	336	225	186	234
35°	370	384	232	142	109	232
45°	229	235	133	72	45	178
55°	141	129	64	22	20	127
65°	85	68	26	8	12	85
75°	45	32	8	4	6	49
85°	14	8	1	1	1	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2
2.5°	457.0	455.8	452.0	444.6	437.2	428.5	421.7	416.7	413.0
5°	478.7	476.2	465.7	450.2	433.4	416.7	401.8	393.1	388.2
7.5°	495.4	491.1	476.2	454.5	428.5	403.1	380.1	366.5	360.9
10°	509.7	502.3	483.0	453.9	419.8	386.3	357.8	341.7	335.5
12.5°	519.0	510.9	487.4	453.3	410.5	369.6	336.1	315.0	308.8
15°	525.8	515.9	488.0	448.3	399.3	352.2	313.8	289.0	280.9
17.5°	530.8	517.1	485.5	442.7	389.4	334.2	290.8	264.2	256.1
20°	532.0	517.1	481.8	434.7	374.5	316.2	266.0	239.4	229.4
22.5°	532.7	515.3	476.2	424.8	359.0	295.8	245.6	217.6	207.1
25°	519.0	509.1	467.5	408.0	335.5	273.5	225.1	194.7	186.0
27.5°	486.8	486.1	457.6	385.7	313.8	249.3	204.0	174.9	166.8
30°	453.9	454.5	444.6	360.9	288.3	226.3	182.9	154.4	145.7
32.5°	413.6	419.8	419.2	333.0	261.1	204.6	162.5	135.8	127.1
35°	370.2	381.4	383.8	301.4	232.5	179.8	142.0	117.8	109.1
37.5°	331.1	342.3	347.9	273.5	205.9	158.1	122.8	101.7	93.0
40°	293.3	302.6	306.9	241.2	179.8	135.8	104.8	85.0	76.3
42.5°	256.7	270.4	269.1	213.9	156.9	117.8	88.7	68.8	60.1
45°	229.4	238.7	235.0	185.4	132.7	99.2	71.9	53.3	45.3
47.5°	202.1	209.0	203.4	161.2	112.2	81.9	58.3	39.1	30.4
50°	179.8	182.9	175.5	137.0	93.6	67.0	44.0	26.0	24.8
52.5°	158.7	160.6	150.1	116.6	77.5	53.9	32.2	20.5	21.7
55°	141.4	140.8	129.0	98.6	63.9	41.5	21.7	18.6	19.8
57.5°	124.6	122.8	111.0	81.9	52.1	32.2	13.0	16.1	17.4
60°	109.8	107.9	94.3	67.6	41.5	24.2	10.5	14.3	15.5
62.5°	98.0	93.6	80.0	55.8	33.5	17.4	9.3	12.4	13.6
65°	85.0	81.2	68.2	45.3	26.0	12.4	8.1	10.5	11.8
67.5°	74.4	70.1	57.7	37.2	21.1	8.7	7.4	9.3	10.5
70°	63.9	60.1	47.7	29.8	15.5	5.6	6.2	8.1	9.3
72.5°	55.2	50.8	39.7	23.6	11.8	4.3	5.6	6.8	7.4
75°	45.3	41.5	31.6	18.0	8.1	3.7	4.3	5.6	6.2
77.5°	37.8	34.1	24.8	13.6	5.6	3.1	3.7	5.0	5.0
80°	29.1	26.0	18.6	9.3	3.7	1.9	3.1	3.7	3.7
82.5°	21.1	18.6	13.0	6.2	1.9	1.9	1.9	2.5	2.5
85°	14.3	12.4	8.1	3.7	1.2	1.2	1.2	1.2	1.2
87.5°	8.1	6.2	3.7	1.2	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report







— 0°-180°    - - 45°-225°    - - - - 90°-270°

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