

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: P837260

Luminaire Tested: HCSQ407D010-HM40525930-41SQLWW

Issue Date: 5/17/2024



**Test Information**

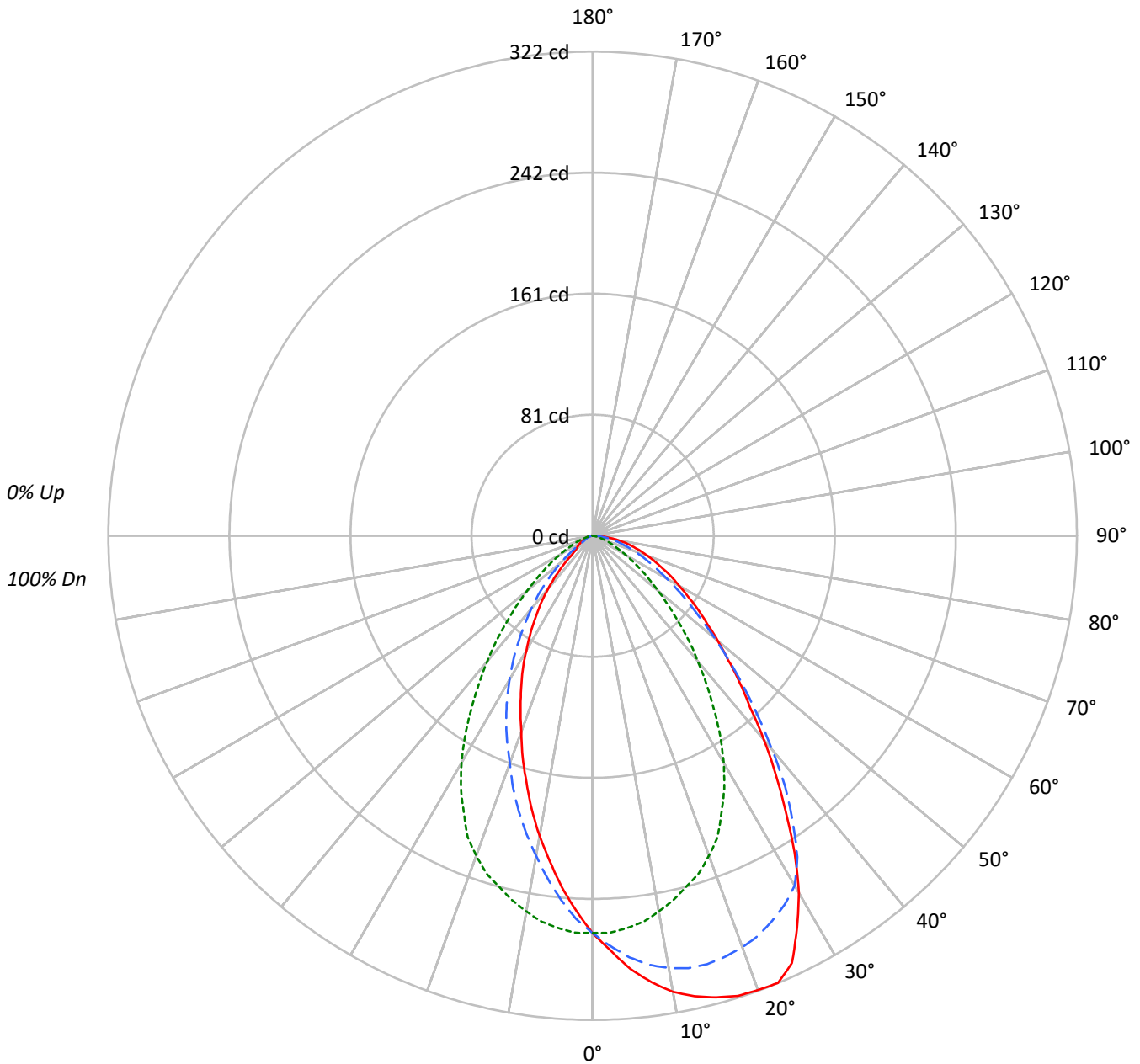
Test Method: LM-79-2019  
Report Number: P837260  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ407D010-HM40525930-41SQLWW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 427.3 lumens  
Efficiency: N/A  
Efficacy: 53.4 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): 8  
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	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°	25594	25594	25594	25594	25594
5°	28133	27365	25469	23611	22814
10°	30298	28714	24956	21268	19940
15°	31873	29576	24201	19016	17020
20°	33144	30021	23330	16577	14289
25°	33521	30196	21667	14537	12014
30°	30684	30057	19486	12361	9855
35°	26455	27437	16616	10147	7805
40°	22409	23459	13746	8005	5830
45°	18989	19454	10988	5960	3754
50°	16382	15975	8530	4009	2261
55°	14424	13157	6519	2213	2027
60°	12846	11044	4863	1240	1821
65°	11759	9444	3599	1123	1628
70°	10933	8186	2663	1048	1586
75°	10256	7149	1834	973	1385
80°	9819	6248	1227	1060	1227
85°	9559	5446	778	778	778

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 19769 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.8	5.8
10°-20°	68.2	16.0
20°-30°	95.4	22.3
30°-40°	93.2	21.8
40°-50°	67.6	15.8
50°-60°	40.8	9.5
60°-70°	22.9	5.4
70°-80°	11.3	2.7
80°-90°	3.1	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°	188.3	44.1
0°-40°	281.5	65.9
0°-60°	389.9	91.3
0°-90°	427.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	427.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	264	264	264	264	264	
5°	289	281	262	243	235	28
15°	318	295	241	190	170	90
25°	314	282	203	136	112	141
35°	224	232	140	86	66	140
45°	139	142	80	44	27	107
55°	85	78	39	13	12	77
65°	51	41	16	5	7	51
75°	27	19	5	3	4	29
85°	9	5	1	1	1	10
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°	264.2	264.2	264.2	264.2	264.2	264.2	264.2	264.2	264.2
2.5°	276.2	275.4	273.2	268.7	264.2	258.9	254.8	251.8	249.6
5°	289.3	287.8	281.4	272.0	261.9	251.8	242.8	237.6	234.6
7.5°	299.4	296.8	287.8	274.7	258.9	243.6	229.7	221.5	218.1
10°	308.0	303.5	291.9	274.3	253.7	233.5	216.2	206.5	202.7
12.5°	313.6	308.8	294.5	273.9	248.1	223.3	203.1	190.4	186.6
15°	317.8	311.8	294.9	270.9	241.3	212.8	189.6	174.6	169.7
17.5°	320.8	312.5	293.4	267.6	235.3	202.0	175.7	159.6	154.8
20°	321.5	312.5	291.2	262.7	226.3	191.1	160.8	144.6	138.6
22.5°	321.9	311.4	287.8	256.7	217.0	178.7	148.4	131.5	125.2
25°	313.6	307.6	282.5	246.6	202.7	165.3	136.0	117.7	112.4
27.5°	294.2	293.8	276.5	233.1	189.6	150.6	123.3	105.7	100.8
30°	274.3	274.7	268.7	218.1	174.2	136.8	110.5	93.3	88.1
32.5°	249.9	253.7	253.3	201.2	157.8	123.7	98.2	82.1	76.8
35°	223.7	230.5	232.0	182.1	140.5	108.7	85.8	71.2	66.0
37.5°	200.1	206.8	210.2	165.3	124.4	95.6	74.2	61.5	56.2
40°	177.2	182.9	185.5	145.8	108.7	82.1	63.3	51.3	46.1
42.5°	155.1	163.4	162.6	129.3	94.8	71.2	53.6	41.6	36.3
45°	138.6	144.3	142.0	112.0	80.2	60.0	43.5	32.2	27.4
47.5°	122.2	126.3	122.9	97.4	67.8	49.5	35.2	23.6	18.4
50°	108.7	110.5	106.0	82.8	56.6	40.5	26.6	15.7	15.0
52.5°	95.9	97.1	90.7	70.4	46.8	32.6	19.5	12.4	13.1
55°	85.4	85.1	77.9	59.6	38.6	25.1	13.1	11.2	12.0
57.5°	75.3	74.2	67.1	49.5	31.5	19.5	7.9	9.7	10.5
60°	66.3	65.2	57.0	40.8	25.1	14.6	6.4	8.6	9.4
62.5°	59.2	56.6	48.3	33.7	20.2	10.5	5.6	7.5	8.2
65°	51.3	49.1	41.2	27.4	15.7	7.5	4.9	6.4	7.1
67.5°	45.0	42.3	34.8	22.5	12.7	5.2	4.5	5.6	6.4
70°	38.6	36.3	28.9	18.0	9.4	3.4	3.7	4.9	5.6
72.5°	33.4	30.7	24.0	14.2	7.1	2.6	3.4	4.1	4.5
75°	27.4	25.1	19.1	10.9	4.9	2.2	2.6	3.4	3.7
77.5°	22.9	20.6	15.0	8.2	3.4	1.9	2.2	3.0	3.0
80°	17.6	15.7	11.2	5.6	2.2	1.1	1.9	2.2	2.2
82.5°	12.7	11.2	7.9	3.7	1.1	1.1	1.1	1.5	1.5
85°	8.6	7.5	4.9	2.2	0.7	0.7	0.7	0.7	0.7
87.5°	4.9	3.7	2.2	0.7	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

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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