

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: P837420

Luminaire Tested: HCSQ425D010-HM40525930-41SQLWW

Issue Date: 5/17/2024

**Test Information**

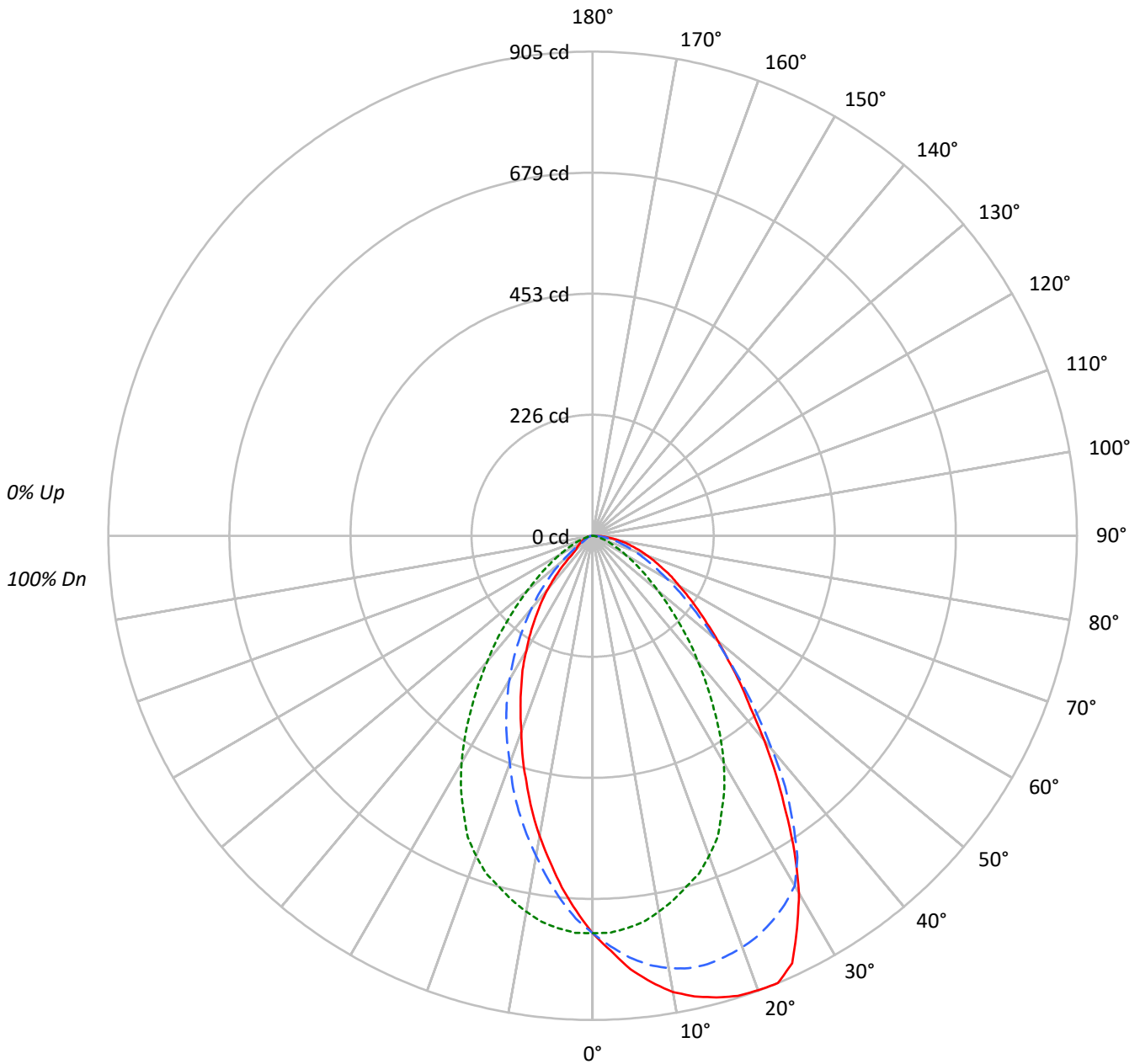
Test Method: LM-79-2019  
Report Number: P837420  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ425D010-HM40525930-41SQLWW  
Description: 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: 1201.5 lumens  
Efficiency: N/A  
Efficacy: 43.4 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): 27.7  
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	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°	71959	71959	71959	71959	71959
5°	79099	76941	71612	66389	64133
10°	85188	80732	70167	59799	56071
15°	89602	83163	68049	53466	47870
20°	93196	84392	65608	46598	40186
25°	94256	84914	60927	40875	33788
30°	86268	84501	54801	34767	27697
35°	74387	77131	46726	28537	21926
40°	63016	65950	38634	22523	16389
45°	53404	54705	30894	16742	10535
50°	46042	44942	23978	11273	6345
55°	40569	37005	18325	6232	5692
60°	36135	31020	13679	3468	5096
65°	33077	26567	10155	3140	4585
70°	30732	22971	7449	2974	4475
75°	28784	20100	5128	2770	3930
80°	27615	17629	3515	2957	3515
85°	26899	15228	2334	2334	2334

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 55568 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.7	5.8
10°-20°	191.8	16.0
20°-30°	268.1	22.3
30°-40°	262.1	21.8
40°-50°	190.2	15.8
50°-60°	114.6	9.5
60°-70°	64.4	5.4
70°-80°	31.9	2.7
80°-90°	8.7	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°	529.5	44.1
0°-40°	791.6	65.9
0°-60°	1096.4	91.3
0°-90°	1201.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1201.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	743	743	743	743	743	
5°	813	791	736	683	660	79
15°	893	829	678	533	477	253
25°	882	794	570	382	316	397
35°	629	652	395	241	185	394
45°	390	399	226	122	77	302
55°	240	219	108	37	34	216
65°	144	116	44	14	20	145
75°	77	54	14	7	10	83
85°	24	14	2	2	2	27
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°	742.8	742.8	742.8	742.8	742.8	742.8	742.8	742.8	742.8
2.5°	776.5	774.4	768.1	755.4	742.8	728.0	716.4	708.0	701.7
5°	813.4	809.1	791.2	764.9	736.4	708.0	682.7	668.0	659.5
7.5°	841.8	834.4	809.1	772.3	728.0	684.8	645.8	622.7	613.2
10°	866.0	853.4	820.7	771.2	713.3	656.4	607.9	580.5	570.0
12.5°	881.8	868.1	828.1	770.2	697.5	627.9	571.0	535.2	524.7
15°	893.4	876.6	829.2	761.7	678.5	598.4	533.1	491.0	477.3
17.5°	901.9	878.7	824.9	752.3	661.6	567.9	494.1	448.8	435.1
20°	904.0	878.7	818.6	738.6	636.4	537.3	452.0	406.7	389.8
22.5°	905.0	875.5	809.1	721.7	610.0	502.6	417.2	369.8	351.9
25°	881.8	865.0	794.4	693.3	570.0	464.6	382.4	330.8	316.1
27.5°	827.1	826.0	777.5	655.3	533.1	423.5	346.6	297.1	283.4
30°	771.2	772.3	755.4	613.2	489.9	384.6	310.8	262.3	247.6
32.5°	702.7	713.3	712.2	565.8	443.6	347.7	276.0	230.7	216.0
35°	629.0	647.9	652.2	512.0	395.1	305.5	241.3	200.2	185.4
37.5°	562.6	581.6	591.1	464.6	349.8	268.7	208.6	172.8	158.0
40°	498.3	514.1	521.5	409.8	305.5	230.7	178.1	144.3	129.6
42.5°	436.2	459.4	457.3	363.5	266.6	200.2	150.7	116.9	102.2
45°	389.8	405.6	399.3	315.0	225.5	168.6	122.2	90.6	76.9
47.5°	343.5	355.1	345.6	273.9	190.7	139.1	99.0	66.4	51.6
50°	305.5	310.8	298.2	232.8	159.1	113.8	74.8	44.3	42.1
52.5°	269.7	272.9	255.0	198.1	131.7	91.7	54.8	34.8	36.9
55°	240.2	239.2	219.1	167.5	108.5	70.6	36.9	31.6	33.7
57.5°	211.8	208.6	188.6	139.1	88.5	54.8	22.1	27.4	29.5
60°	186.5	183.3	160.1	114.8	70.6	41.1	17.9	24.2	26.3
62.5°	166.5	159.1	135.9	94.8	56.9	29.5	15.8	21.1	23.2
65°	144.3	138.0	115.9	76.9	44.3	21.1	13.7	17.9	20.0
67.5°	126.4	119.1	98.0	63.2	35.8	14.8	12.6	15.8	17.9
70°	108.5	102.2	81.1	50.6	26.3	9.5	10.5	13.7	15.8
72.5°	93.8	86.4	67.4	40.0	20.0	7.4	9.5	11.6	12.6
75°	76.9	70.6	53.7	30.6	13.7	6.3	7.4	9.5	10.5
77.5°	64.3	57.9	42.1	23.2	9.5	5.3	6.3	8.4	8.4
80°	49.5	44.3	31.6	15.8	6.3	3.2	5.3	6.3	6.3
82.5°	35.8	31.6	22.1	10.5	3.2	3.2	3.2	4.2	4.2
85°	24.2	21.1	13.7	6.3	2.1	2.1	2.1	2.1	2.1
87.5°	13.7	10.5	6.3	2.1	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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