

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: P837445

Luminaire Tested: HCSQ430D010-HM43040835-41SQLWW

Issue Date: 5/17/2024

**Test Information**

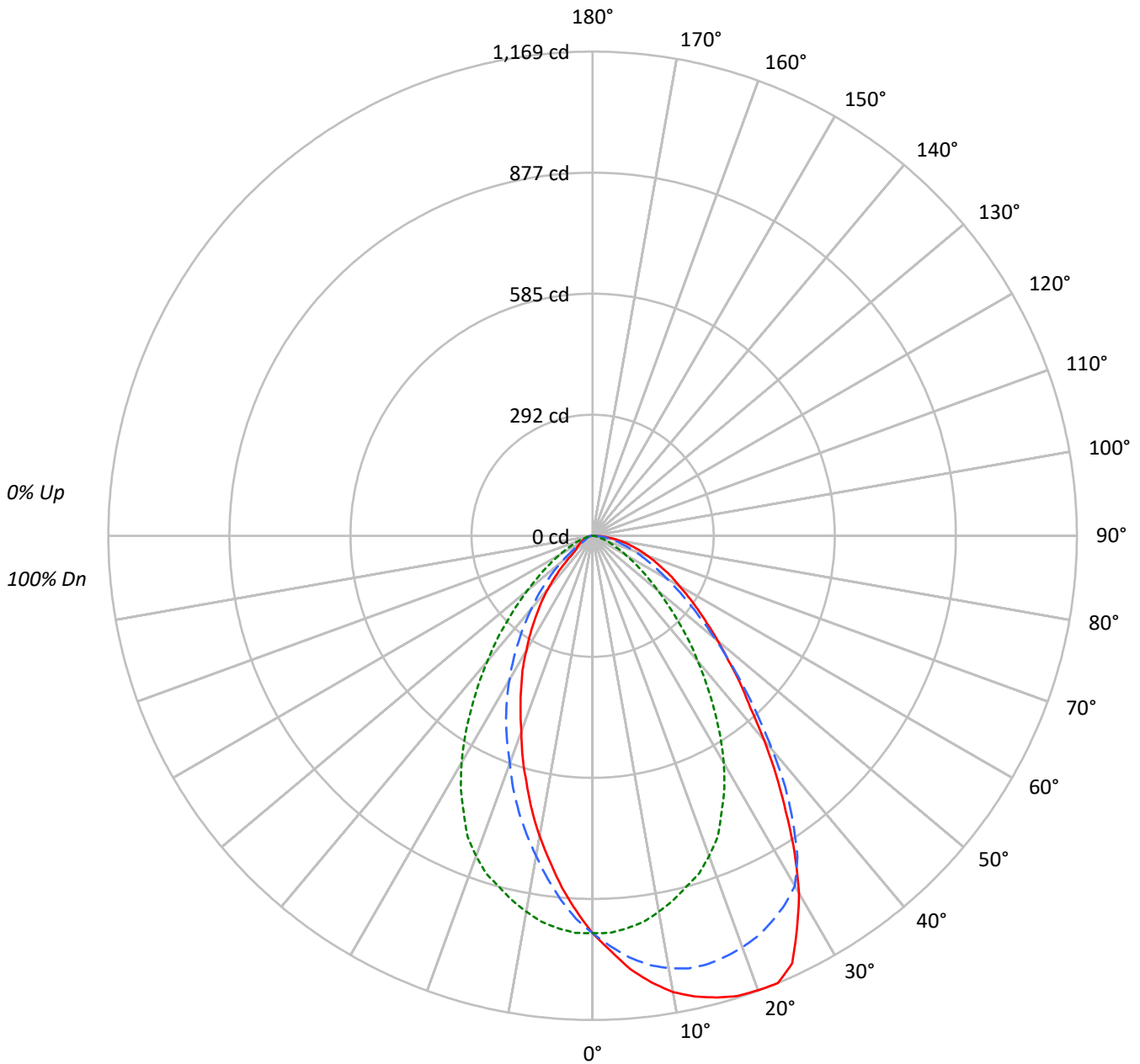
Test Method: LM-79-2019  
Report Number: P837445  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040835-41SQLWW  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, LENSED WALLWASH TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1552.1 lumens  
Efficiency: N/A  
Efficacy: 55.0 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): 28.2  
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									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°	92952	92952	92952	92952	92952
5°	102176	99395	92519	85761	82853
10°	110056	104292	90638	77250	72430
15°	115758	107424	87907	69072	61831
20°	120392	109021	84752	60196	51917
25°	121769	109691	78703	52814	43643
30°	111448	109166	70798	44913	35774
35°	96089	99637	60361	36863	28324
40°	81416	85197	49915	29086	21170
45°	68994	70666	39909	21633	13618
50°	59486	58054	30971	14559	8199
55°	52409	47815	23679	8040	7364
60°	46675	40087	17670	4476	6588
65°	42751	34315	13112	4057	5937
70°	39711	29684	9630	3852	5778
75°	37205	25976	6625	3556	5090
80°	35705	22762	4575	3794	4575
85°	34791	19674	3001	3001	3001

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 71789 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.0	5.8
10°-20°	247.7	16.0
20°-30°	346.3	22.3
30°-40°	338.5	21.8
40°-50°	245.7	15.8
50°-60°	148.1	9.5
60°-70°	83.2	5.4
70°-80°	41.2	2.7
80°-90°	11.3	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°	684.0	44.1
0°-40°	1022.6	65.9
0°-60°	1416.3	91.3
0°-90°	1552.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1552.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	960	960	960	960	960	
5°	1051	1022	951	882	852	102
15°	1154	1071	876	689	616	327
25°	1139	1026	736	494	408	513
35°	812	842	510	312	240	509
45°	504	516	291	158	99	390
55°	310	283	140	48	44	279
65°	186	150	57	18	26	187
75°	99	69	18	10	14	107
85°	31	18	3	3	3	35
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°	959.5	959.5	959.5	959.5	959.5	959.5	959.5	959.5	959.5
2.5°	1003.1	1000.4	992.2	975.9	959.5	940.5	925.5	914.6	906.4
5°	1050.7	1045.3	1022.1	988.1	951.4	914.6	881.9	862.9	852.0
7.5°	1087.5	1077.9	1045.3	997.6	940.5	884.7	834.3	804.4	792.1
10°	1118.8	1102.4	1060.2	996.3	921.4	847.9	785.3	749.9	736.3
12.5°	1139.2	1121.5	1069.8	994.9	901.0	811.2	737.7	691.4	677.8
15°	1154.2	1132.4	1071.1	984.0	876.5	773.1	688.7	634.2	616.5
17.5°	1165.0	1135.1	1065.7	971.8	854.7	733.6	638.3	579.8	562.1
20°	1167.8	1135.1	1057.5	954.1	822.1	694.1	583.9	525.4	503.6
22.5°	1169.1	1131.0	1045.3	932.3	788.0	649.2	539.0	477.7	454.6
25°	1139.2	1117.4	1026.2	895.6	736.3	600.2	494.1	427.4	408.3
27.5°	1068.4	1067.0	1004.4	846.6	688.7	547.1	447.8	383.8	366.1
30°	996.3	997.6	975.9	792.1	632.9	496.8	401.5	338.9	319.8
32.5°	907.8	921.4	920.1	730.9	573.0	449.1	356.6	298.1	279.0
35°	812.5	837.0	842.5	661.5	510.4	394.7	311.7	258.6	239.5
37.5°	726.8	751.3	763.5	600.2	451.9	347.1	269.5	223.2	204.2
40°	643.8	664.2	673.7	529.4	394.7	298.1	230.0	186.5	167.4
42.5°	563.5	593.4	590.7	469.6	344.3	258.6	194.6	151.1	132.0
45°	503.6	524.0	515.8	406.9	291.3	217.8	157.9	117.0	99.4
47.5°	443.7	458.7	446.4	353.9	246.3	179.7	127.9	85.7	66.7
50°	394.7	401.5	385.2	300.8	205.5	147.0	96.6	57.2	54.4
52.5°	348.4	352.5	329.4	255.9	170.1	118.4	70.8	44.9	47.6
55°	310.3	309.0	283.1	216.4	140.2	91.2	47.6	40.8	43.6
57.5°	273.6	269.5	243.6	179.7	114.3	70.8	28.6	35.4	38.1
60°	240.9	236.8	206.9	148.4	91.2	53.1	23.1	31.3	34.0
62.5°	215.0	205.5	175.6	122.5	73.5	38.1	20.4	27.2	29.9
65°	186.5	178.3	149.7	99.4	57.2	27.2	17.7	23.1	25.9
67.5°	163.3	153.8	126.6	81.7	46.3	19.1	16.3	20.4	23.1
70°	140.2	132.0	104.8	65.3	34.0	12.2	13.6	17.7	20.4
72.5°	121.1	111.6	87.1	51.7	25.9	9.5	12.2	15.0	16.3
75°	99.4	91.2	69.4	39.5	17.7	8.2	9.5	12.2	13.6
77.5°	83.0	74.9	54.4	29.9	12.2	6.8	8.2	10.9	10.9
80°	64.0	57.2	40.8	20.4	8.2	4.1	6.8	8.2	8.2
82.5°	46.3	40.8	28.6	13.6	4.1	4.1	4.1	5.4	5.4
85°	31.3	27.2	17.7	8.2	2.7	2.7	2.7	2.7	2.7
87.5°	17.7	13.6	8.2	2.7	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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