

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: P837435

Luminaire Tested: HCSQ430D010-HM43040827-41SQLWW

Issue Date: 5/17/2024

**Test Information**

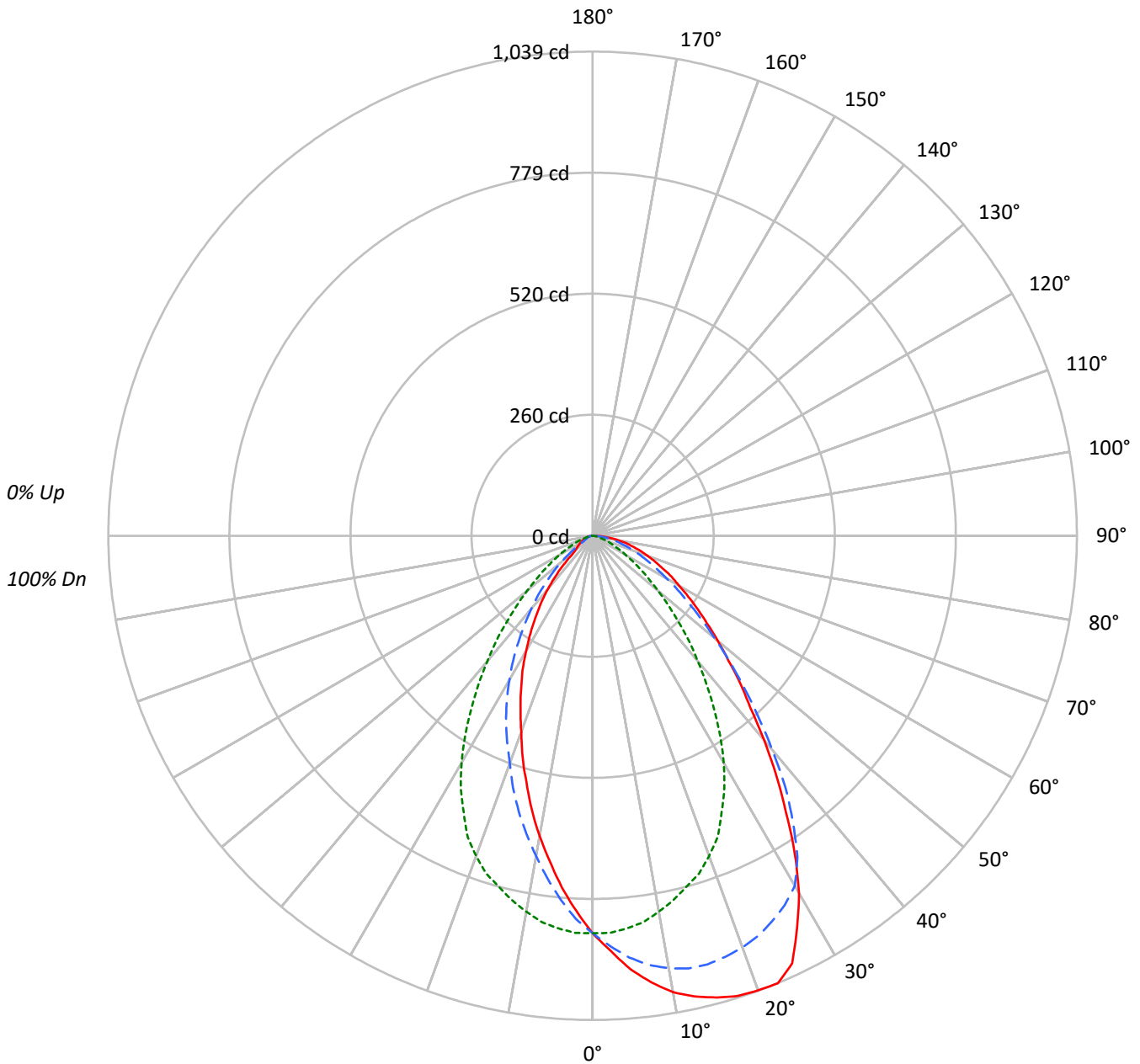
Test Method: LM-79-2019  
Report Number: P837435  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040827-41SQLWW  
Description: 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: 1379.6 lumens  
Efficiency: N/A  
Efficacy: 48.9 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°	82625	82625	82625	82625	82625
5°	90827	88357	82241	76240	73644
10°	97829	92704	80565	68672	64383
15°	102890	95489	78138	61399	54960
20°	107010	96907	75330	53505	46144
25°	108237	97505	69960	46946	38790
30°	99065	97029	62934	39924	31802
35°	85421	88567	53656	32759	25178
40°	72361	75738	44363	25861	18818
45°	61322	62816	35470	19221	12097
50°	52870	51604	27535	12946	7294
55°	46582	42495	21045	7144	6536
60°	41482	35631	15713	3991	5851
65°	37983	30510	11645	3599	5272
70°	35292	26398	8554	3427	5127
75°	33051	23094	5876	3182	4529
80°	31744	20251	4073	3347	4073
85°	30900	17451	2668	2668	2668

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 63816 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.0	5.8
10°-20°	220.2	16.0
20°-30°	307.9	22.3
30°-40°	300.9	21.8
40°-50°	218.4	15.8
50°-60°	131.6	9.5
60°-70°	74.0	5.4
70°-80°	36.7	2.7
80°-90°	10.0	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°	608.0	44.1
0°-40°	908.9	65.9
0°-60°	1258.9	91.3
0°-90°	1379.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1379.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	853	853	853	853	853	
5°	934	909	846	784	757	91
15°	1026	952	779	612	548	291
25°	1013	912	654	439	363	456
35°	722	749	454	277	213	452
45°	448	458	259	140	88	347
55°	276	252	125	42	39	248
65°	166	133	51	16	23	166
75°	88	62	16	8	12	95
85°	28	16	2	2	2	31
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°	852.9	852.9	852.9	852.9	852.9	852.9	852.9	852.9	852.9
2.5°	891.6	889.2	881.9	867.4	852.9	836.0	822.7	813.0	805.7
5°	934.0	929.1	908.6	878.3	845.7	813.0	784.0	767.0	757.3
7.5°	966.6	958.2	929.1	886.8	836.0	786.4	741.6	715.0	704.1
10°	994.5	979.9	942.4	885.6	819.0	753.7	698.1	666.6	654.5
12.5°	1012.6	996.9	950.9	884.4	800.9	721.0	655.7	614.6	602.5
15°	1025.9	1006.6	952.1	874.7	779.1	687.2	612.2	563.8	548.0
17.5°	1035.6	1009.0	947.3	863.8	759.8	652.1	567.4	515.4	499.6
20°	1038.0	1009.0	940.0	848.1	730.7	617.0	519.0	467.0	447.6
22.5°	1039.2	1005.3	929.1	828.7	700.5	577.1	479.1	424.6	404.1
25°	1012.6	993.2	912.2	796.0	654.5	533.5	439.2	379.9	362.9
27.5°	949.7	948.5	892.8	752.5	612.2	486.3	398.0	341.2	325.4
30°	885.6	886.8	867.4	704.1	562.6	441.6	356.9	301.2	284.3
32.5°	806.9	819.0	817.8	649.7	509.3	399.2	317.0	264.9	248.0
35°	722.3	744.0	748.9	588.0	453.7	350.8	277.0	229.9	212.9
37.5°	646.0	667.8	678.7	533.5	401.7	308.5	239.5	198.4	181.5
40°	572.2	590.4	598.9	470.6	350.8	264.9	204.5	165.7	148.8
42.5°	500.9	527.5	525.1	417.4	306.1	229.9	173.0	134.3	117.4
45°	447.6	465.8	458.5	361.7	258.9	193.6	140.3	104.0	88.3
47.5°	394.4	407.7	396.8	314.5	219.0	159.7	113.7	76.2	59.3
50°	350.8	356.9	342.4	267.4	182.7	130.7	85.9	50.8	48.4
52.5°	309.7	313.3	292.8	227.4	151.2	105.3	62.9	39.9	42.3
55°	275.8	274.6	251.6	192.4	124.6	81.1	42.3	36.3	38.7
57.5°	243.2	239.5	216.6	159.7	101.6	62.9	25.4	31.5	33.9
60°	214.1	210.5	183.9	131.9	81.1	47.2	20.6	27.8	30.2
62.5°	191.1	182.7	156.1	108.9	65.3	33.9	18.1	24.2	26.6
65°	165.7	158.5	133.1	88.3	50.8	24.2	15.7	20.6	23.0
67.5°	145.2	136.7	112.5	72.6	41.1	16.9	14.5	18.1	20.6
70°	124.6	117.4	93.2	58.1	30.2	10.9	12.1	15.7	18.1
72.5°	107.7	99.2	77.4	46.0	23.0	8.5	10.9	13.3	14.5
75°	88.3	81.1	61.7	35.1	15.7	7.3	8.5	10.9	12.1
77.5°	73.8	66.5	48.4	26.6	10.9	6.0	7.3	9.7	9.7
80°	56.9	50.8	36.3	18.1	7.3	3.6	6.0	7.3	7.3
82.5°	41.1	36.3	25.4	12.1	3.6	3.6	3.6	4.8	4.8
85°	27.8	24.2	15.7	7.3	2.4	2.4	2.4	2.4	2.4
87.5°	15.7	12.1	7.3	2.4	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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