

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: P837468

Luminaire Tested: HCSQ430D010-HM43040940-41SQC

Issue Date: 5/17/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P837468  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-1)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ430D010-HM43040940-41SQC  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

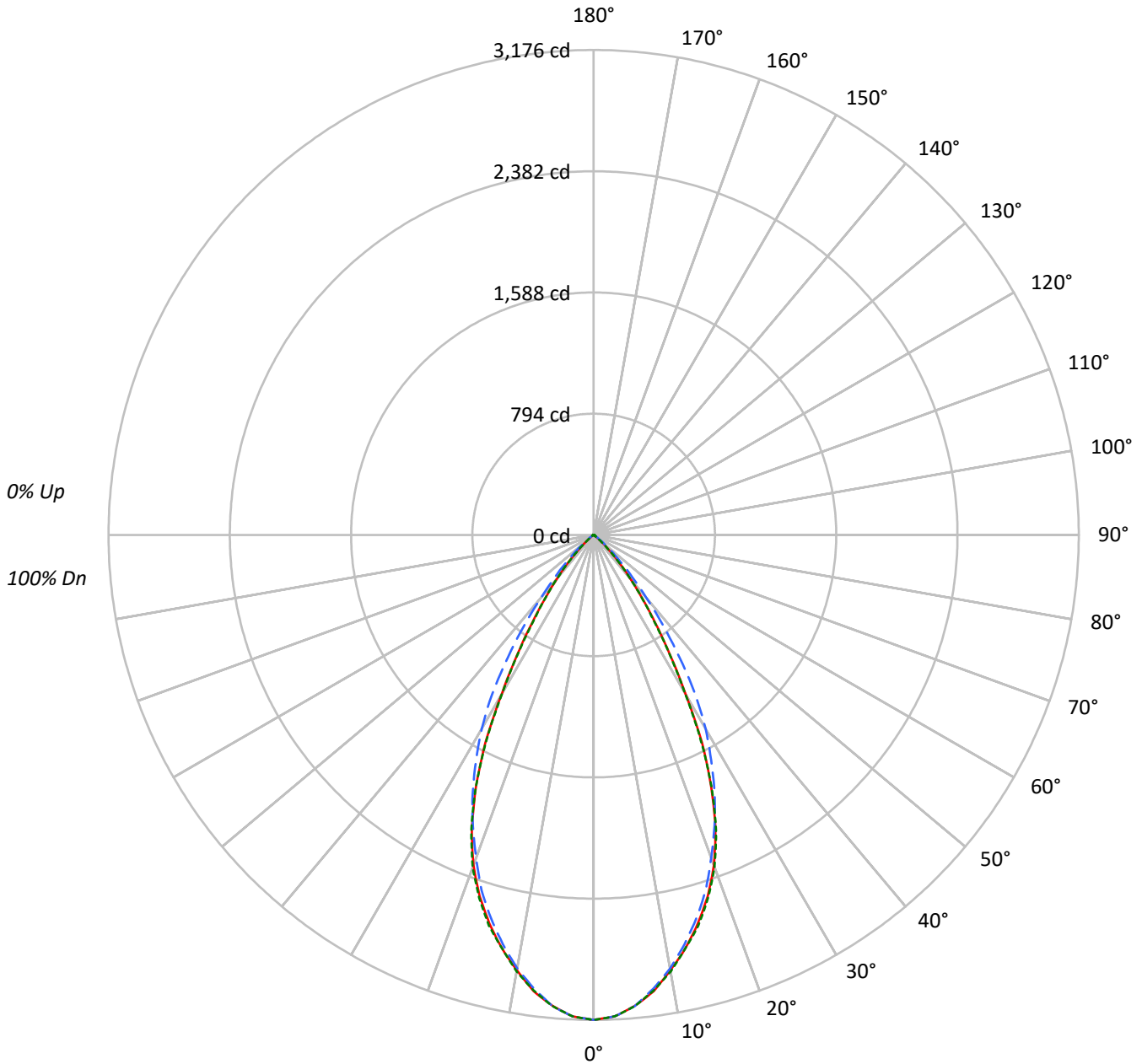
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2566.6 lumens  
Efficiency: N/A  
Efficacy: 91.0 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 0.85 / 0.87  
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					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	100	100	100	100	100		
	1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94	94	94	94	94	94		
	2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	93	91	89	87	87	87	87	87	87		
	3	103	96	91	87	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81	81	81	81		
	4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76	76	76	76		
	5	93	84	79	74	91	83	78	74	82	77	73	80	76	73	78	75	72	71	71	71	71	71	71		
	6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	70	68	66	66	66	66	66	66		
	7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62	62	62	62		
	8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	60	58	58	58	58	58	58		
	9	76	67	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55	55	55	55		
	10	73	63	57	53	72	63	57	53	62	57	53	61	56	53	60	56	53	52	52	52	52	52	52		

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

	0°	45°	90°
0°	307667	307667	307667
5°	301072	301198	301198
10°	284781	283512	285538
15°	264231	260611	265656
20°	237196	231876	238649
25°	194818	200462	195502
30°	134671	163789	133653
35°	82926	115697	80939
40°	46778	67644	46449
45°	21372	33908	20482
50°	5441	13594	5637
55°	2618	4138	2398
60°	1744	1492	1996
65°	1467	1192	1467
70°	1105	1105	1473
75°	973	973	1460
80°	1450	1450	1450
85°	1445	2890	2890

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 33908 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.9	11.3
10°-20°	729.6	28.4
20°-30°	834.1	32.5
30°-40°	517.8	20.2
40°-50°	163.2	6.4
50°-60°	21.1	0.8
60°-70°	6.2	0.2
70°-80°	3.4	0.1
80°-90°	2.3	0.1
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°	1852.6	72.2
0°-40°	2370.4	92.4
0°-60°	2554.7	99.5
0°-90°	2566.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2566.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3176	3176	3176	3176	3176	
5°	3096	3094	3097	3095	3097	289
15°	2635	2615	2598	2615	2649	735
25°	1823	1848	1875	1848	1829	818
35°	701	810	978	790	684	451
45°	156	187	248	188	150	132
55°	16	16	24	16	14	15
65°	6	6	5	6	6	6
75°	3	3	3	3	4	3
85°	1	3	3	3	3	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3175.9	3175.9	3175.9	3175.9	3175.9
2.5°	3156.6	3159.2	3156.6	3161.8	3156.6
5°	3096.0	3093.5	3097.3	3094.7	3097.3
7.5°	3013.5	2998.1	2996.8	3007.1	3008.4
10°	2895.0	2891.1	2882.1	2891.1	2902.7
12.5°	2773.8	2758.3	2745.4	2763.5	2773.8
15°	2634.6	2615.3	2598.5	2615.3	2648.8
17.5°	2481.2	2454.1	2440.0	2459.3	2491.5
20°	2300.8	2272.4	2249.2	2266.0	2314.9
22.5°	2084.2	2081.6	2066.2	2075.2	2093.2
25°	1822.6	1848.3	1875.4	1848.3	1829.0
27.5°	1535.1	1604.7	1666.6	1585.4	1523.5
30°	1203.9	1309.6	1464.2	1301.8	1194.8
32.5°	930.6	1041.5	1238.7	1027.3	922.9
35°	701.2	809.5	978.3	790.1	684.4
37.5°	515.6	596.8	743.7	591.6	515.6
40°	369.9	422.8	534.9	421.5	367.3
42.5°	256.5	291.3	373.8	288.7	248.8
45°	156.0	186.9	247.5	188.2	149.5
47.5°	82.5	118.6	156.0	113.4	82.5
50°	36.1	63.2	90.2	61.9	37.4
52.5°	19.3	27.1	49.0	27.1	19.3
55°	15.5	15.5	24.5	15.5	14.2
57.5°	11.6	11.6	12.9	11.6	11.6
60°	9.0	9.0	7.7	9.0	10.3
62.5°	7.7	7.7	6.4	7.7	7.7
65°	6.4	6.4	5.2	6.4	6.4
67.5°	5.2	5.2	5.2	5.2	5.2
70°	3.9	3.9	3.9	5.2	5.2
72.5°	3.9	3.9	3.9	3.9	3.9
75°	2.6	2.6	2.6	2.6	3.9
77.5°	2.6	2.6	2.6	2.6	2.6
80°	2.6	2.6	2.6	2.6	2.6
82.5°	1.3	2.6	2.6	2.6	2.6
85°	1.3	2.6	2.6	2.6	2.6
87.5°	1.3	1.3	2.6	2.6	2.6
90°	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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