

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: P837405

Luminaire Tested: HCSQ425D010-HM40525835-41SQLWW

Issue Date: 5/17/2024

**Test Information**

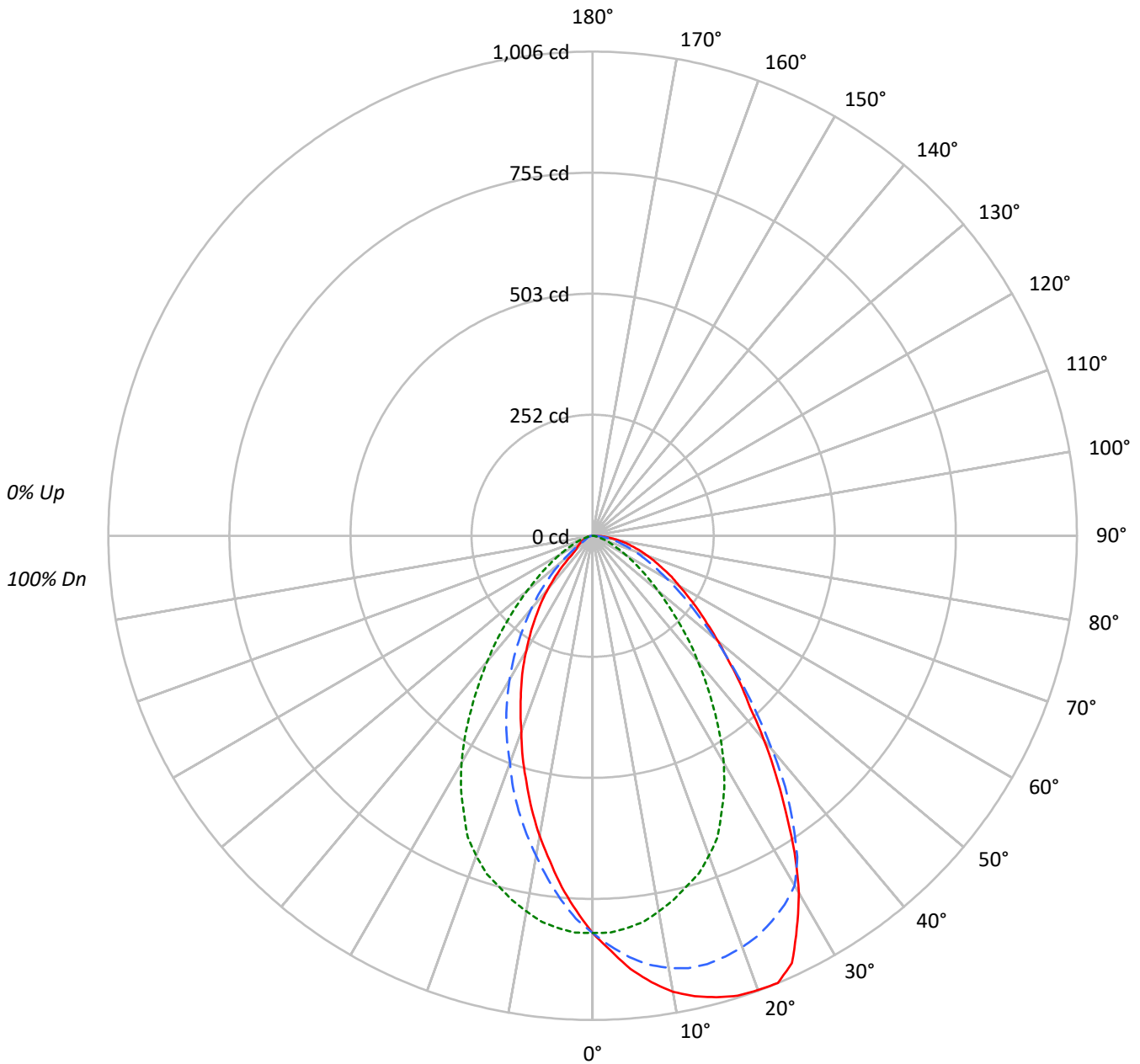
Test Method: LM-79-2019  
Report Number: P837405  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCSQ425D010-HM40525835-41SQLWW  
Description: 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: 1334.9 lumens  
Efficiency: N/A  
Efficacy: 48.2 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°	79951	79951	79951	79951	79951
5°	87881	85488	79576	73770	71261
10°	94661	89704	77958	66449	62298
15°	99561	92400	75611	59403	53185
20°	103546	93773	72897	51773	44649
25°	104731	94352	67694	45418	37540
30°	95855	93886	60887	38626	30773
35°	82654	85693	51917	31706	24362
40°	70022	73285	42934	25014	18211
45°	59336	60788	34319	18605	11714
50°	51167	49931	26646	12524	7053
55°	45079	41126	20369	6925	6334
60°	40145	34468	15190	3856	5677
65°	36768	29524	11278	3484	5089
70°	34159	25520	8299	3314	4985
75°	32002	22346	5689	3069	4379
80°	30684	19582	3905	3292	3905
85°	29900	16895	2556	2556	2556

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 61747 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.4	5.8
10°-20°	213.1	16.0
20°-30°	297.9	22.3
30°-40°	291.2	21.8
40°-50°	211.3	15.8
50°-60°	127.4	9.5
60°-70°	71.6	5.4
70°-80°	35.5	2.7
80°-90°	9.7	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°	588.3	44.1
0°-40°	879.5	65.9
0°-60°	1218.2	91.3
0°-90°	1334.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1334.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	825	825	825	825	825	
5°	904	879	818	759	733	88
15°	993	921	754	592	530	281
25°	980	883	633	425	351	442
35°	699	725	439	268	206	438
45°	433	444	250	136	86	336
55°	267	244	121	41	38	240
65°	160	129	49	15	22	161
75°	86	60	15	8	12	92
85°	27	15	2	2	2	30
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°	825.3	825.3	825.3	825.3	825.3	825.3	825.3	825.3	825.3
2.5°	862.8	860.4	853.4	839.3	825.3	808.9	796.0	786.7	779.6
5°	903.7	899.0	879.1	849.9	818.3	786.7	758.6	742.2	732.8
7.5°	935.3	927.1	899.0	858.1	808.9	760.9	717.6	691.8	681.3
10°	962.3	948.2	911.9	856.9	792.5	729.3	675.5	645.0	633.3
12.5°	979.8	964.6	920.1	855.7	775.0	697.7	634.5	594.7	583.0
15°	992.7	974.0	921.3	846.4	753.9	664.9	592.3	545.5	530.3
17.5°	1002.1	976.3	916.6	835.8	735.2	631.0	549.0	498.7	483.5
20°	1004.4	976.3	909.6	820.6	707.1	597.0	502.2	451.9	433.1
22.5°	1005.6	972.8	899.0	801.9	677.8	558.4	463.6	410.9	391.0
25°	979.8	961.1	882.7	770.3	633.3	516.3	424.9	367.6	351.2
27.5°	918.9	917.8	863.9	728.1	592.3	470.6	385.1	330.1	314.9
30°	856.9	858.1	839.3	681.3	544.3	427.3	345.3	291.5	275.1
32.5°	780.8	792.5	791.3	628.6	492.8	386.3	306.7	256.4	240.0
35°	698.9	719.9	724.6	568.9	439.0	339.5	268.1	222.4	206.0
37.5°	625.1	646.2	656.7	516.3	388.7	298.5	231.8	192.0	175.6
40°	553.7	571.3	579.5	455.4	339.5	256.4	197.8	160.4	144.0
42.5°	484.6	510.4	508.1	403.9	296.2	222.4	167.4	129.9	113.6
45°	433.1	450.7	443.7	350.0	250.5	187.3	135.8	100.7	85.5
47.5°	381.6	394.5	384.0	304.4	211.9	154.5	110.0	73.8	57.4
50°	339.5	345.3	331.3	258.7	176.8	126.4	83.1	49.2	46.8
52.5°	299.7	303.2	283.3	220.1	146.3	101.8	60.9	38.6	41.0
55°	266.9	265.7	243.5	186.1	120.6	78.4	41.0	35.1	37.5
57.5°	235.3	231.8	209.5	154.5	98.3	60.9	24.6	30.4	32.8
60°	207.2	203.7	177.9	127.6	78.4	45.7	19.9	26.9	29.3
62.5°	185.0	176.8	151.0	105.4	63.2	32.8	17.6	23.4	25.8
65°	160.4	153.4	128.8	85.5	49.2	23.4	15.2	19.9	22.2
67.5°	140.5	132.3	108.9	70.2	39.8	16.4	14.0	17.6	19.9
70°	120.6	113.6	90.1	56.2	29.3	10.5	11.7	15.2	17.6
72.5°	104.2	96.0	74.9	44.5	22.2	8.2	10.5	12.9	14.0
75°	85.5	78.4	59.7	33.9	15.2	7.0	8.2	10.5	11.7
77.5°	71.4	64.4	46.8	25.8	10.5	5.9	7.0	9.4	9.4
80°	55.0	49.2	35.1	17.6	7.0	3.5	5.9	7.0	7.0
82.5°	39.8	35.1	24.6	11.7	3.5	3.5	3.5	4.7	4.7
85°	26.9	23.4	15.2	7.0	2.3	2.3	2.3	2.3	2.3
87.5°	15.2	11.7	7.0	2.3	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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