

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: P837499

Luminaire Tested: HCSQ435D010-HM43040930-41SQH

Issue Date: 5/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P837499
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2309-165-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCSQ435D010-HM43040930-41SQH
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

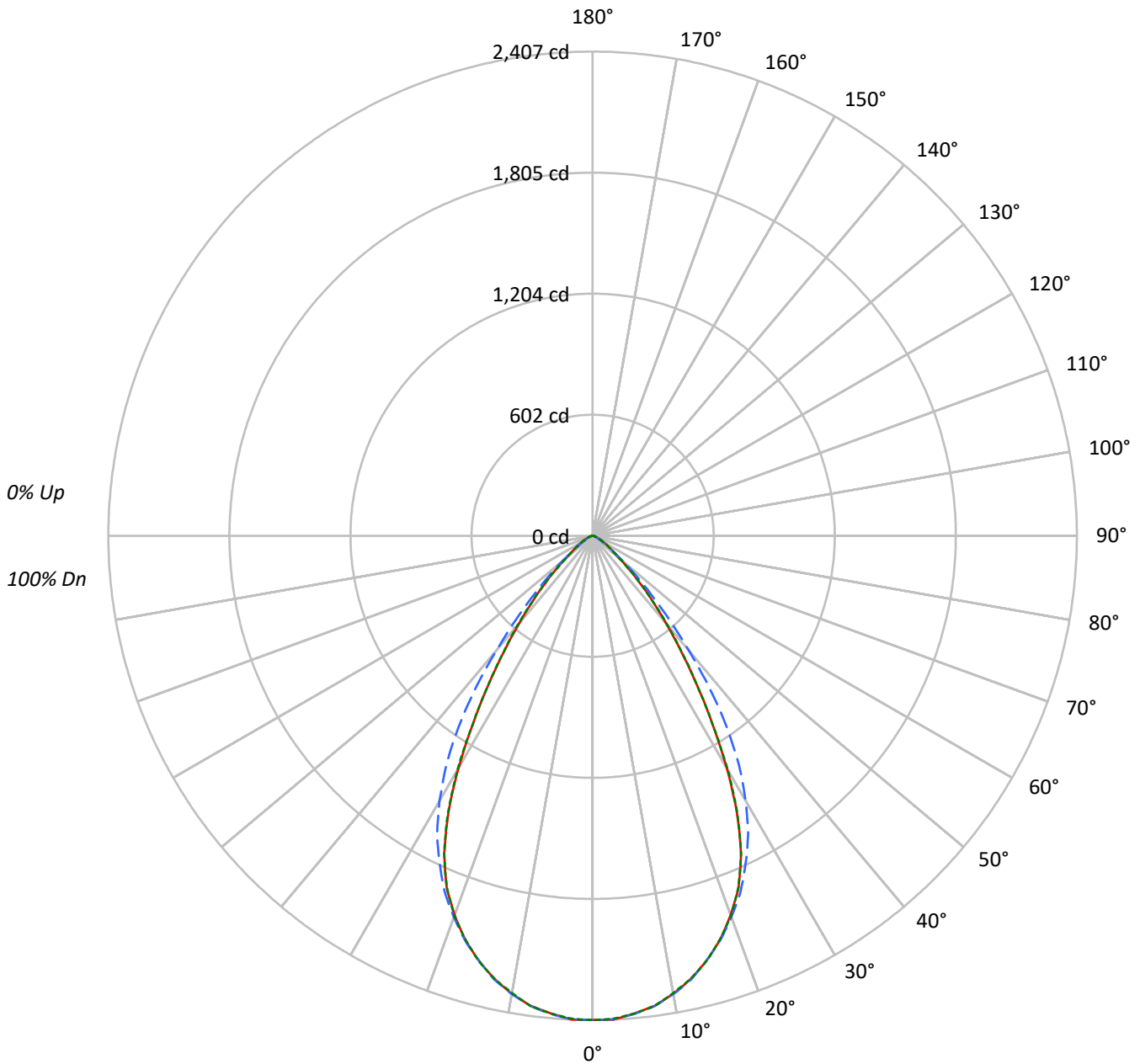
Lumens per Lamp: N/A
Luminaire Lumens: 2706.0 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 0.98 / 0.98 / 1.01
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): 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				100															
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92				92															
2	107	101	97	93	104	100	95	92	96	93	90	93	90	88	90	88	86	85				85															
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77															
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71															
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65				65															
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60				60															
7	80	70	63	59	78	69	63	58	68	62	58	66	61	58	65	61	57	56				56															
8	75	65	59	54	74	65	58	54	63	58	54	62	57	54	61	57	53	52				52															
9	72	61	55	50	70	61	54	50	60	54	50	59	54	50	58	53	50	48				48															
10	68	57	51	47	67	57	51	47	56	51	47	55	50	47	55	50	46	45				45															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	233208	233208	233208
5°	231785	232076	231785
10°	227441	227589	227008
15°	219360	219210	219511
20°	206783	207855	207247
25°	186588	192317	186588
30°	149034	170153	150197
35°	106389	137682	106567
40°	71830	93645	72956
45°	45636	55404	45841
50°	25998	29585	25093
55°	17076	14322	16822
60°	11819	8351	11528
65°	8183	6143	8183
70°	5891	4645	5891
75°	3893	3893	3893
80°	2510	3292	3292
85°	3335	3335	3335

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 55404 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.5	8.3
10°-20°	613.2	22.7
20°-30°	802.9	29.7
30°-40°	631.1	23.3
40°-50°	294.7	10.9
50°-60°	91.4	3.4
60°-70°	32.6	1.2
70°-80°	11.5	0.4
80°-90°	3.2	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°	1641.6	60.7
0°-40°	2272.7	84.0
0°-60°	2658.8	98.3
0°-90°	2706.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2706.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2407	2407	2407	2407	2407	
5°	2384	2385	2386	2389	2384	225
15°	2187	2187	2186	2187	2189	613
25°	1746	1769	1799	1771	1746	785
35°	900	981	1164	993	901	567
45°	333	373	404	366	335	265
55°	101	95	85	94	100	95
65°	36	33	27	31	36	37
75°	10	10	10	10	10	12
85°	3	3	3	3	3	3
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2407.3	2407.3	2407.3	2407.3	2407.3
2.5°	2407.3	2404.3	2405.8	2402.8	2402.8
5°	2383.5	2385.0	2386.5	2389.4	2383.5
7.5°	2356.7	2359.7	2358.2	2358.2	2358.2
10°	2312.1	2313.6	2313.6	2313.6	2307.7
12.5°	2255.6	2258.6	2260.1	2255.6	2255.6
15°	2187.2	2187.2	2185.7	2187.2	2188.7
17.5°	2105.5	2109.9	2109.9	2105.5	2104.0
20°	2005.8	2013.3	2016.2	2010.3	2010.3
22.5°	1894.3	1901.7	1919.6	1904.7	1892.8
25°	1745.6	1769.4	1799.2	1770.9	1745.6
27.5°	1553.8	1605.9	1674.3	1614.8	1558.3
30°	1332.3	1417.0	1521.1	1421.5	1342.7
32.5°	1106.3	1201.4	1354.6	1208.9	1106.3
35°	899.6	981.4	1164.2	993.2	901.1
37.5°	715.2	794.0	954.6	802.9	725.6
40°	568.0	631.9	740.5	630.4	576.9
42.5°	443.1	489.2	560.6	487.7	441.6
45°	333.1	373.2	404.4	365.8	334.6
47.5°	245.3	272.1	289.9	267.6	239.4
50°	172.5	191.8	196.3	187.3	166.5
52.5°	129.4	129.4	130.8	127.9	126.4
55°	101.1	95.2	84.8	93.7	99.6
57.5°	78.8	72.9	59.5	69.9	77.3
60°	61.0	55.0	43.1	53.5	59.5
62.5°	47.6	41.6	34.2	41.6	46.1
65°	35.7	32.7	26.8	31.2	35.7
67.5°	26.8	23.8	20.8	23.8	26.8
70°	20.8	19.3	16.4	17.8	20.8
72.5°	14.9	13.4	13.4	13.4	14.9
75°	10.4	10.4	10.4	10.4	10.4
77.5°	7.4	7.4	7.4	7.4	7.4
80°	4.5	4.5	5.9	5.9	5.9
82.5°	3.0	3.0	4.5	4.5	4.5
85°	3.0	3.0	3.0	3.0	3.0
87.5°	1.5	1.5	1.5	3.0	3.0
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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