

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO

Report Number: P601247

Luminaire Tested: **ML408LSFL95FS1E - TIR4D40FL - TL41R_ TL42S_ 4000K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P601247
 Test Lab: COOPER LIGHTING SOLUTIONS
 Issue Date: 7/29/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML408LSFL95FS1E - TIR4D40FL - TL41R_ TL42S_ 4000K
 Description: RETROFIT, 40D OPTIC, OPEN TRIM
 Light Source: (1) SELECTABLE LUMEN LED 95CRI / 4000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 1051.2 lumens
 Efficiency: N/A
 Efficacy: 102.1 lumens/watt
 Spacing Criteria (0/90/45): 0.67 / 0.67 / 0.63
 Luminous Opening: Circular (Dia: 0.21' x H: 0')
 CIE Type: Direct

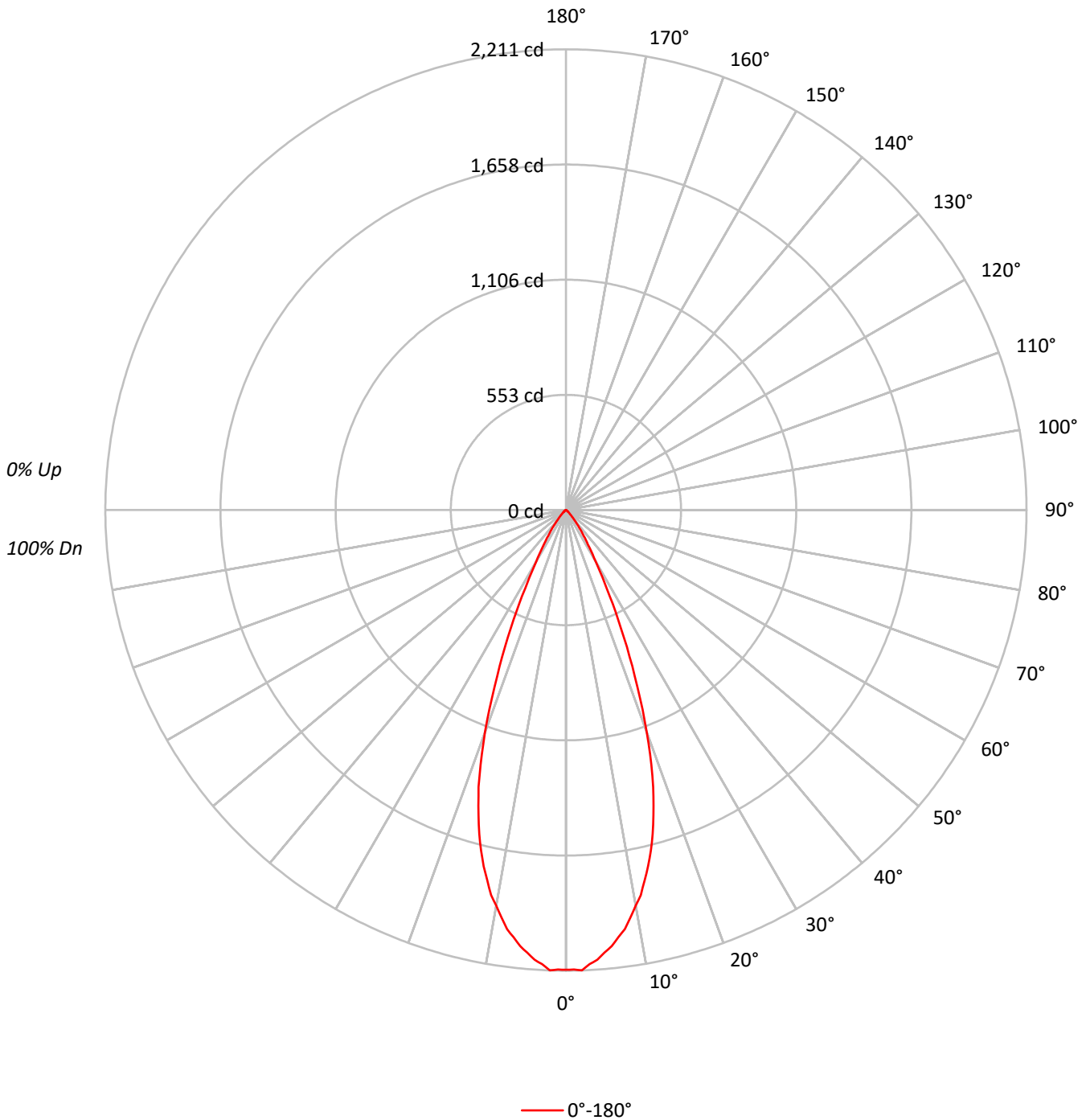
Input Watts (W): 10.3
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



Meas			
Instrument	Identificatio		Calibration Due Date
Photometer	GONIO 1 11111111	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	12/1/2020	12/1/2021

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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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	95	95	95
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90	90	90	90
3	105	100	96	92	103	98	95	91	96	93	90	94	91	89	91	89	87	86	86	86	86
4	101	95	90	86	99	94	89	86	92	88	85	90	87	84	88	85	83	82	82	82	82
5	97	90	85	81	96	89	85	81	87	83	80	86	82	80	84	81	79	78	78	78	78
6	93	86	81	77	92	85	80	77	84	79	76	82	79	76	81	78	75	74	74	74	74
7	90	82	77	73	89	81	77	73	80	76	73	79	75	72	78	75	72	71	71	71	71
8	86	78	73	70	85	78	73	70	77	73	69	76	72	69	75	72	69	68	68	68	68
9	83	75	70	67	82	75	70	67	74	69	66	73	69	66	72	69	66	65	65	65	65
10	80	72	67	64	79	72	67	64	71	67	64	70	66	63	70	66	63	62	62	62	62

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	696862
5°	675561
10°	618315
15°	526152
20°	381596
25°	217372
30°	103405
35°	53928
40°	26999
45°	12950
50°	7418
55°	3468
60°	821
65°	971
70°	0
75°	0
80°	0
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.3	18.8
10°-20°	436.8	41.6
20°-30°	291.4	27.7
30°-40°	93.3	8.9
40°-50°	25.4	2.4
50°-60°	6.3	0.6
60°-70°	0.8	0.1
70°-80°	0.0	0.0
80°-90°	0.0	0.0
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°	925.5	88.0
0°-40°	1018.8	96.9
0°-60°	1050.5	99.9
0°-90°	1051.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1051.2	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	2207	
5°	2131	197
15°	1610	437
25°	624	291
35°	140	93
45°	29	25
55°	6	6
65°	1	1
75°	0	0
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

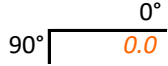
0°	
0°	2206.9
1°	2205.7
2°	2210.7
3°	2181.7
4°	2164.1
5°	2131.3
6°	2104.8
7°	2064.5
8°	2031.7
9°	1978.8
10°	1928.4
11°	1883.0
12°	1816.2
13°	1754.4
14°	1685.1
15°	1609.5
17.5°	1394.0
20°	1135.6
22.5°	862.1
25°	623.9
27.5°	423.5
30°	283.6
32.5°	196.6
35°	139.9
37.5°	99.6
40°	65.5
42.5°	42.9
45°	29.0
47.5°	21.4
50°	15.1
52.5°	10.1
55°	6.3
57.5°	3.8
60°	1.3
62.5°	1.3
65°	1.3
67.5°	0.0
70°	0.0
72.5°	0.0
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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CANDELA DISTRIBUTION (continued):



(END OF REPORT)