

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: P601196

Luminaire Tested: **ML406FL9FS1E - TIR4D40FL - TL43R2G_ TL44S2G_ 5000K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P601196
 Test Lab: COOPER LIGHTING SOLUTIONS
 Issue Date: 7/29/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML406FL9FS1E - TIR4D40FL - TL43R2G_ TL44S2G_ 5000K
 Description: RETROFIT, 40D OPTIC, DIFFUSE CLEAR LENS TRIM
 Light Source: (1) SELECTABLE LUMEN LED 90CRI / 5000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 873.3 lumens
 Efficiency: N/A
 Efficacy: 105.2 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

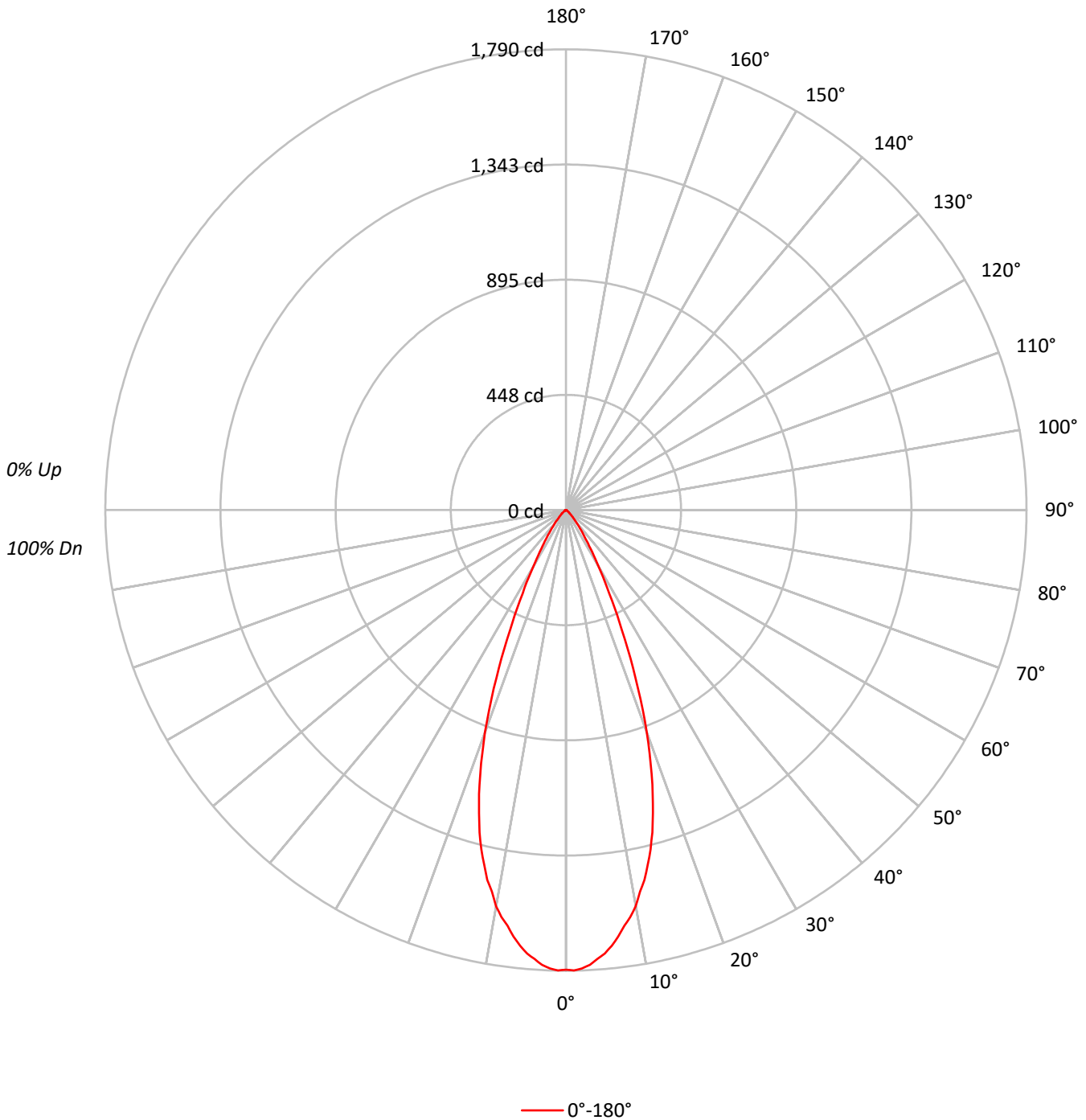
Input Watts (W): 8.3
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



Meas		Calibration Due Date	
Instrument	Identificatio		
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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103		102	101	100		99	98	97	95
2	109	105	102	99	107	104	100	98	100	98	95		97	95	93		95	93	92	90
3	105	99	95	92	103	98	94	91	95	92	89		93	90	88		91	89	87	85
4	101	94	89	86	99	93	89	85	91	87	84		89	86	83		87	85	82	81
5	97	89	84	81	95	88	84	80	87	83	80		85	82	79		84	81	78	77
6	93	85	80	76	91	84	79	76	83	79	75		82	78	75		80	77	75	73
7	89	81	76	72	88	80	76	72	79	75	72		78	74	71		77	74	71	70
8	86	77	72	69	85	77	72	69	76	72	68		75	71	68		74	71	68	67
9	82	74	69	66	81	74	69	66	73	68	65		72	68	65		71	68	65	64
10	79	71	66	63	78	71	66	63	70	66	63		69	65	62		69	65	62	61

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	564020
5°	548297
10°	501155
15°	423929
20°	308812
25°	178943
30°	91846
35°	48108
40°	25969
45°	13799
50°	8155
55°	4239
60°	2084
65°	1644
70°	1016
75°	0
80°	0
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.5	18.3
10°-20°	351.8	40.3
20°-30°	241.9	27.7
30°-40°	83.9	9.6
40°-50°	26.0	3.0
50°-60°	7.8	0.9
60°-70°	1.9	0.2
70°-80°	0.4	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°	753.2	86.3
0°-40°	837.1	95.9
0°-60°	870.9	99.7
0°-90°	873.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	873.3	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1786	
5°	1730	159
15°	1297	352
25°	514	242
35°	125	84
45°	31	26
55°	8	8
65°	2	2
75°	0	0
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

	0°
0°	1786.2
1°	1789.5
2°	1782.8
3°	1769.6
4°	1748.6
5°	1729.8
6°	1702.2
7°	1670.2
8°	1631.5
9°	1600.6
10°	1563.0
11°	1510.0
12°	1469.1
13°	1413.9
14°	1358.7
15°	1296.8
17.5°	1117.9
20°	919.0
22.5°	705.8
25°	513.6
27.5°	364.5
30°	251.9
32.5°	176.7
35°	124.8
37.5°	89.5
40°	63.0
42.5°	44.2
45°	30.9
47.5°	22.1
50°	16.6
52.5°	12.2
55°	7.7
57.5°	5.5
60°	3.3
62.5°	2.2
65°	2.2
67.5°	1.1
70°	1.1
72.5°	1.1
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0

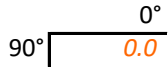
Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269


NVLAP Lab Code: 200050-0



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CANDELA DISTRIBUTION (continued):



(END OF REPORT)