

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: P601341

Luminaire Tested: **ML4DM06FL9FS1E - TIR4D40FL - TL41R\_ TL42S\_ 3000K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P601341  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Issue Date: 7/29/2022  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: ML4DM06FL9FS1E - TIR4D40FL - TL41R\_ TL42S\_ 3000K  
 Description: DIRECT MOUNT, 40D OPTIC, OPEN TRIM  
 Light Source: (1) SELECTABLE LUMEN LED 90CRI / 3000K CCT  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 837.1 lumens  
 Efficiency: N/A  
 Efficacy: 100.9 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

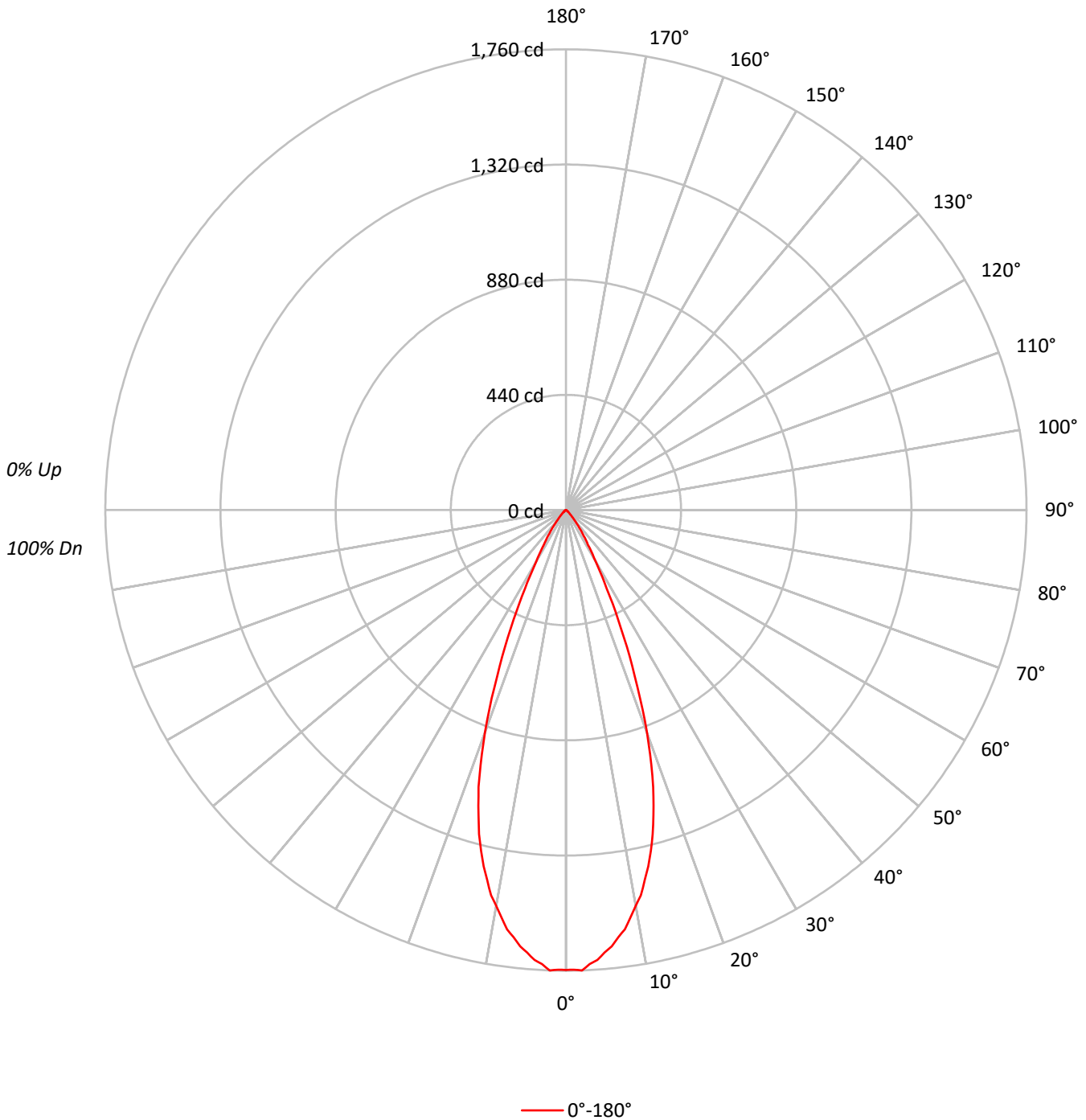
Input Watts (W): 8.3  
 Input Voltage (V): NR  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 25 FT



Meas			
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°	554926
5°	537964
10°	492369
15°	418993
20°	303872
25°	173089
30°	82330
35°	42942
40°	21517
45°	10316
50°	5895
55°	2753
60°	632
65°	747
70°	0
75°	0
80°	0
85°	0

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.1	18.8
10°-20°	347.8	41.6
20°-30°	232.0	27.7
30°-40°	74.3	8.9
40°-50°	20.2	2.4
50°-60°	5.0	0.6
60°-70°	0.6	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°	737.0	88.0
0°-40°	811.3	96.9
0°-60°	836.5	99.9
0°-90°	837.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	837.1	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	1757	
5°	1697	157
15°	1282	348
25°	497	232
35°	111	74
45°	23	20
55°	5	5
65°	1	1
75°	0	0
85°	0	0
90°	0	

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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	1757.4
1°	1756.4
2°	1760.4
3°	1737.3
4°	1723.3
5°	1697.2
6°	1676.1
7°	1644.0
8°	1617.9
9°	1575.7
10°	1535.6
11°	1499.5
12°	1446.3
13°	1397.1
14°	1341.9
15°	1281.7
17.5°	1110.0
20°	904.3
22.5°	686.5
25°	496.8
27.5°	337.2
30°	225.8
32.5°	156.6
35°	111.4
37.5°	79.3
40°	52.2
42.5°	34.1
45°	23.1
47.5°	17.1
50°	12.0
52.5°	8.0
55°	5.0
57.5°	3.0
60°	1.0
62.5°	1.0
65°	1.0
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

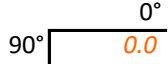
Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

  
NVLAP Lab Code: 200050-0



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CANDELA DISTRIBUTION (continued):



(END OF REPORT)