

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P300500

Luminaire Tested: **ML4D09\_27D2WE - TIR45NFL25 - TL41RBN - TL42SBN**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P300500  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-10)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML4D09\_27D2WE - TIR45NFL25 - TL41RBN - TL42SBN  
Description: ML4 2700K, 900LM DIM-TO-WARM, 25 DEG NFL OPTIC, WITH ROUND/SQUARE PINHOLE BRUSH NICKEL FLANGE  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 524.0 lumens  
Efficiency: N/A  
Efficacy: 46.8 lumens/watt  
Spacing Criteria (0/90/45): 0.46 / 0.46 / 0.44  
Luminous Opening: Circular (Dia: 0.19' x H: 0')  
CIE Type: Direct

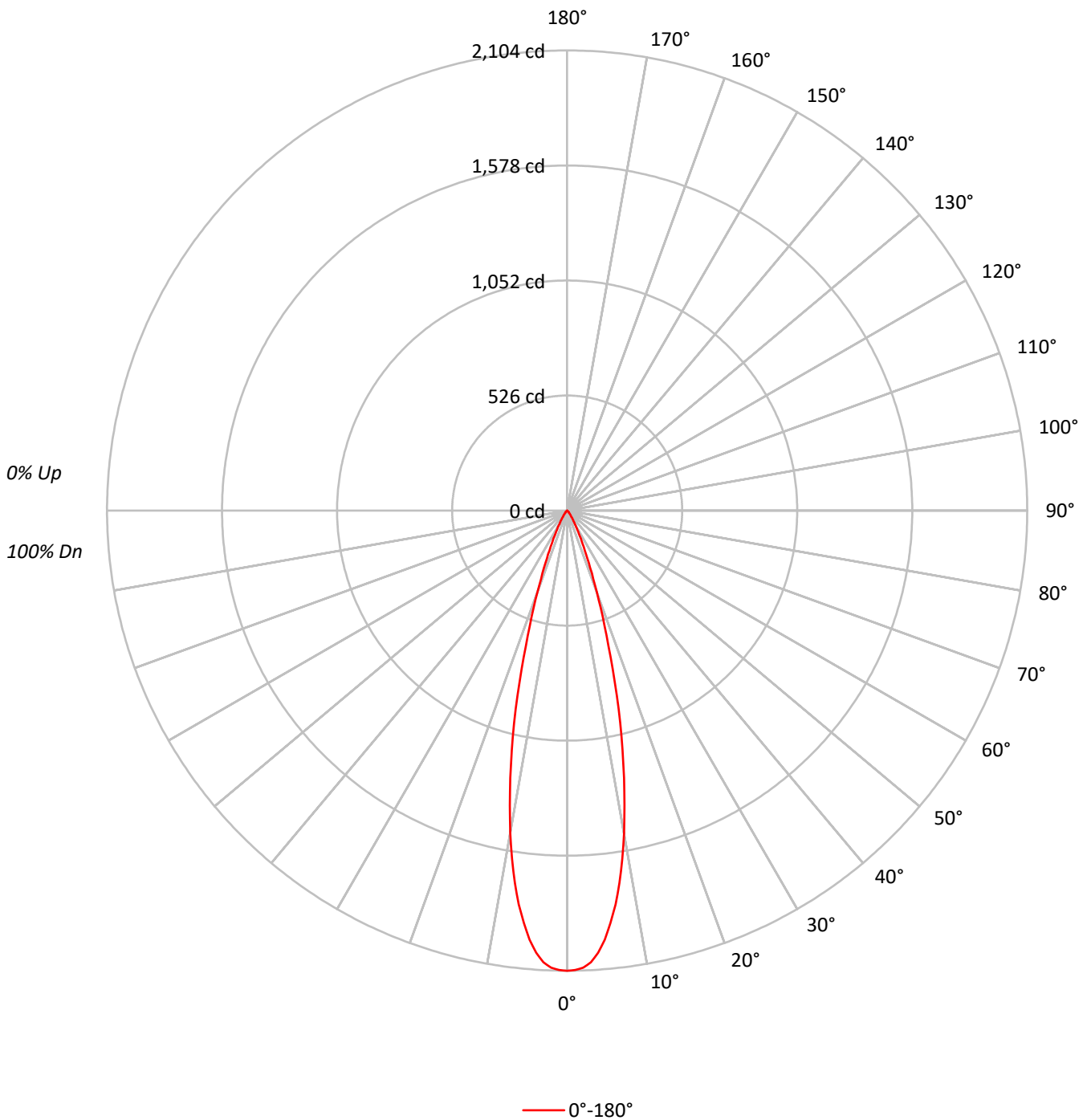
Input Watts (W): 11.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	102	109	106	103	101	103	100	99	100	98	96	97	96	95	93
3	107	103	99	96	106	101	98	95	99	96	94	97	94	92	95	93	91	90
4	104	99	95	91	102	98	94	91	96	92	90	94	91	89	92	90	88	87
5	101	95	91	88	99	94	90	87	92	89	86	91	88	86	89	87	85	84
6	98	91	87	84	97	91	87	84	89	86	83	88	85	83	87	84	82	81
7	95	88	84	81	94	88	84	81	87	83	81	86	82	80	85	82	80	79
8	92	86	81	78	91	85	81	78	84	81	78	83	80	78	82	80	77	76
9	90	83	79	76	89	83	79	76	82	78	76	81	78	75	80	77	75	74
10	87	80	76	74	87	80	76	74	79	76	73	79	76	73	78	75	73	72

**AVERAGE LUMINANCE (cd/sqm):**

	0°
0°	820285
5°	770551
10°	593294
15°	353741
20°	164364
25°	71445
30°	31510
35°	15229
40°	8142
45°	4410
50°	1819
55°	1359
60°	780
65°	0
70°	0
75°	0
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.7	33.0
10°-20°	237.7	45.4
20°-30°	83.4	15.9
30°-40°	22.0	4.2
40°-50°	6.4	1.2
50°-60°	1.6	0.3
60°-70°	0.4	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°	493.7	94.2
0°-40°	515.7	98.4
0°-60°	523.6	99.9
0°-90°	524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	524.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2104	
5°	1969	173
15°	876	238
25°	166	83
35°	32	22
45°	8	6
55°	2	2
65°	0	0
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	2104.2
1°	2101.2
2°	2091.2
3°	2068.2
4°	2027.1
5°	1969.1
6°	1896.1
7°	1814.0
8°	1719.0
9°	1612.9
10°	1498.8
11°	1373.8
12°	1249.7
13°	1123.6
14°	1000.6
15°	876.5
16°	755.4
17°	646.4
18°	554.3
19°	469.3
20°	396.2
21°	334.2
22°	282.2
23°	237.1
24°	199.1
25°	166.1
27.5°	107.1
30°	70.0
32.5°	47.0
35°	32.0
37.5°	22.0
40°	16.0
42.5°	11.0
45°	8.0
47.5°	5.0
50°	3.0
52.5°	2.0
55°	2.0
57.5°	1.0
60°	1.0
62.5°	1.0
65°	0.0
67.5°	0.0
70°	0.0
72.5°	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)