

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: P300485

Luminaire Tested: **ML4D09\_27D2WE - TIR45SP15 - TL41RBN - TL42SBN**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P300485  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-65)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML4D09\_27D2WE - TIR45SP15 - TL41RBN - TL42SBN  
Description: ML4 2700K, 900LM DIM-TO-WARM, 15 DEG SP 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: 492.0 lumens  
Efficiency: N/A  
Efficacy: 43.9 lumens/watt  
Spacing Criteria (0/90/45): 0.32 / 0.32 / 0.32  
Luminous Opening: Circular (Dia: 0.19' x H: 0')  
CIE Type: Direct

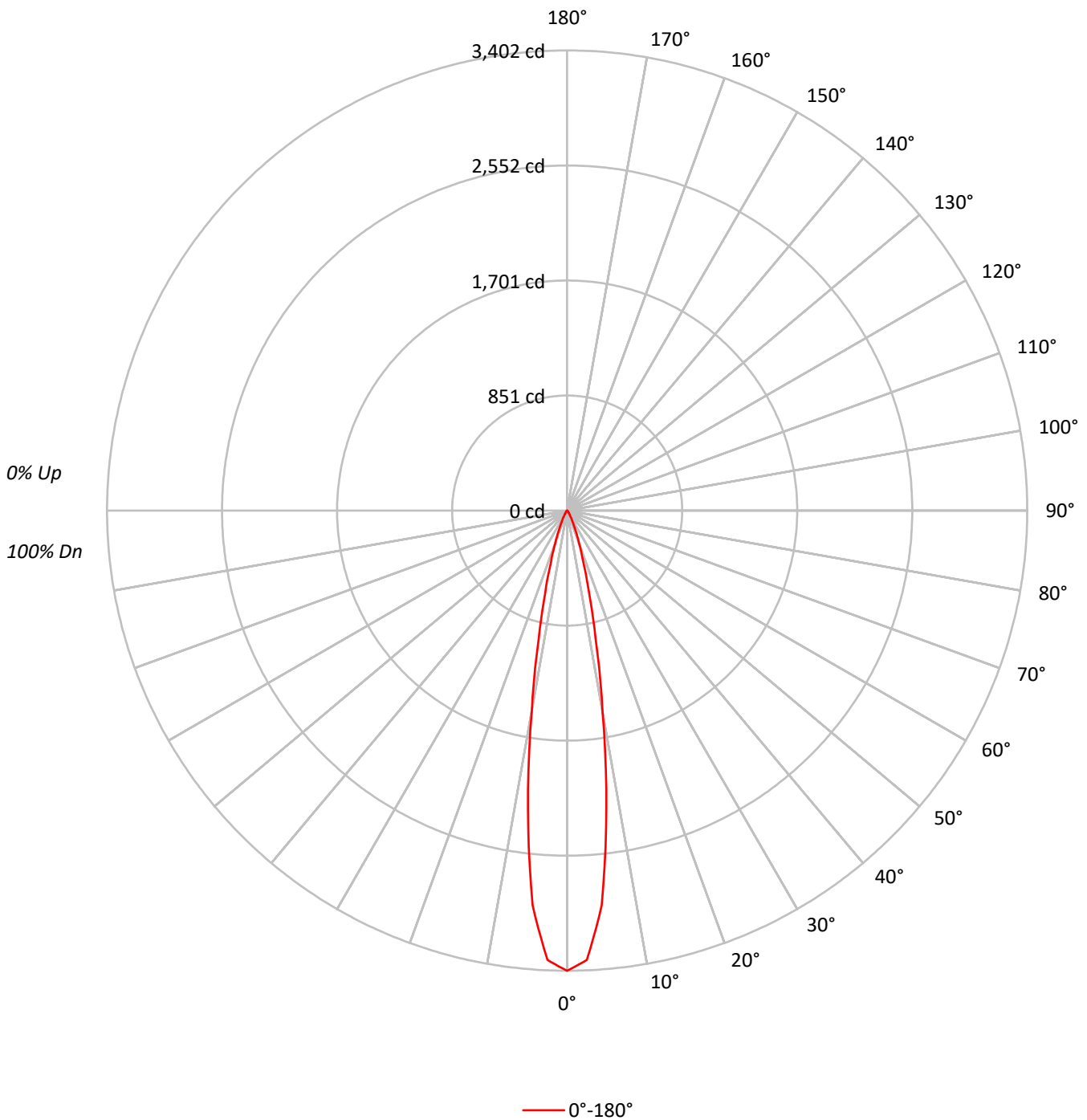
Input Watts (W): 11.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	112	110	113	111	110	108	107	106	105	104	103	102	100	100	99	97
2	112	109	106	103	110	107	104	102	104	102	100	101	99	98	98	97	96	95
3	109	104	101	98	107	103	100	98	101	98	96	98	96	95	96	95	93	92
4	106	101	97	94	104	100	97	94	98	95	93	96	94	92	94	92	91	90
5	103	98	94	91	102	97	93	91	95	92	90	94	91	89	92	90	89	88
6	101	95	91	88	99	94	91	88	93	90	88	92	89	87	91	88	86	86
7	98	92	89	86	97	92	88	86	91	88	85	90	87	85	89	86	85	84
8	96	90	86	84	95	90	86	84	89	85	83	88	85	83	87	85	83	82
9	94	88	84	82	93	87	84	82	87	84	81	86	83	81	85	83	81	80
10	92	86	82	80	91	86	82	80	85	82	80	84	81	79	84	81	79	78

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

	0°
0°	1326404
5°	1146298
10°	596421
15°	250343
20°	107488
25°	47745
30°	19806
35°	9994
40°	5598
45°	2757
50°	1213
55°	680
60°	780
65°	0
70°	0
75°	0
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	230.7	46.9
10°-20°	185.7	37.7
20°-30°	55.5	11.3
30°-40°	14.5	2.9
40°-50°	4.1	0.8
50°-60°	1.2	0.2
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°	471.9	95.9
0°-40°	486.3	98.9
0°-60°	491.6	99.9
0°-90°	492.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	492.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	3402	
5°	2929	231
15°	620	186
25°	111	55
35°	21	14
45°	5	4
55°	1	1
65°	0	0
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	3402.5
2.5°	3325.4
5°	2929.3
7.5°	2220.0
10°	1506.7
12.5°	966.4
15°	620.3
17.5°	396.2
20°	259.1
22.5°	170.1
25°	111.0
27.5°	71.0
30°	44.0
32.5°	30.0
35°	21.0
37.5°	16.0
40°	11.0
42.5°	7.0
45°	5.0
47.5°	3.0
50°	2.0
52.5°	2.0
55°	1.0
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
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)