

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: P300480

Luminaire Tested: **ML4D09\_27D2WE - TIR45SP15 - TL43R2GBNBB - TL44S2GBNBB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P300480  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-60)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML4D09\_27D2WE - TIR45SP15 - TL43R2GBNBB - TL44S2GBNBB  
Description: ML4 2700K, 900LM DIM-TO-WARM, 15 DEG SP OPTIC, WITH ROUND/SQUARE  
DIFFUSED CLEAR LENS, BRUSH NICKEL FLANGE, BLACK LENS FRAME  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 459.0 lumens  
Efficiency: N/A  
Efficacy: 41.0 lumens/watt  
Spacing Criteria (0/90/45): 0.35 / 0.35 / 0.37  
Luminous Opening: Circular (Dia: 0.19' x H: 0')  
CIE Type: Direct

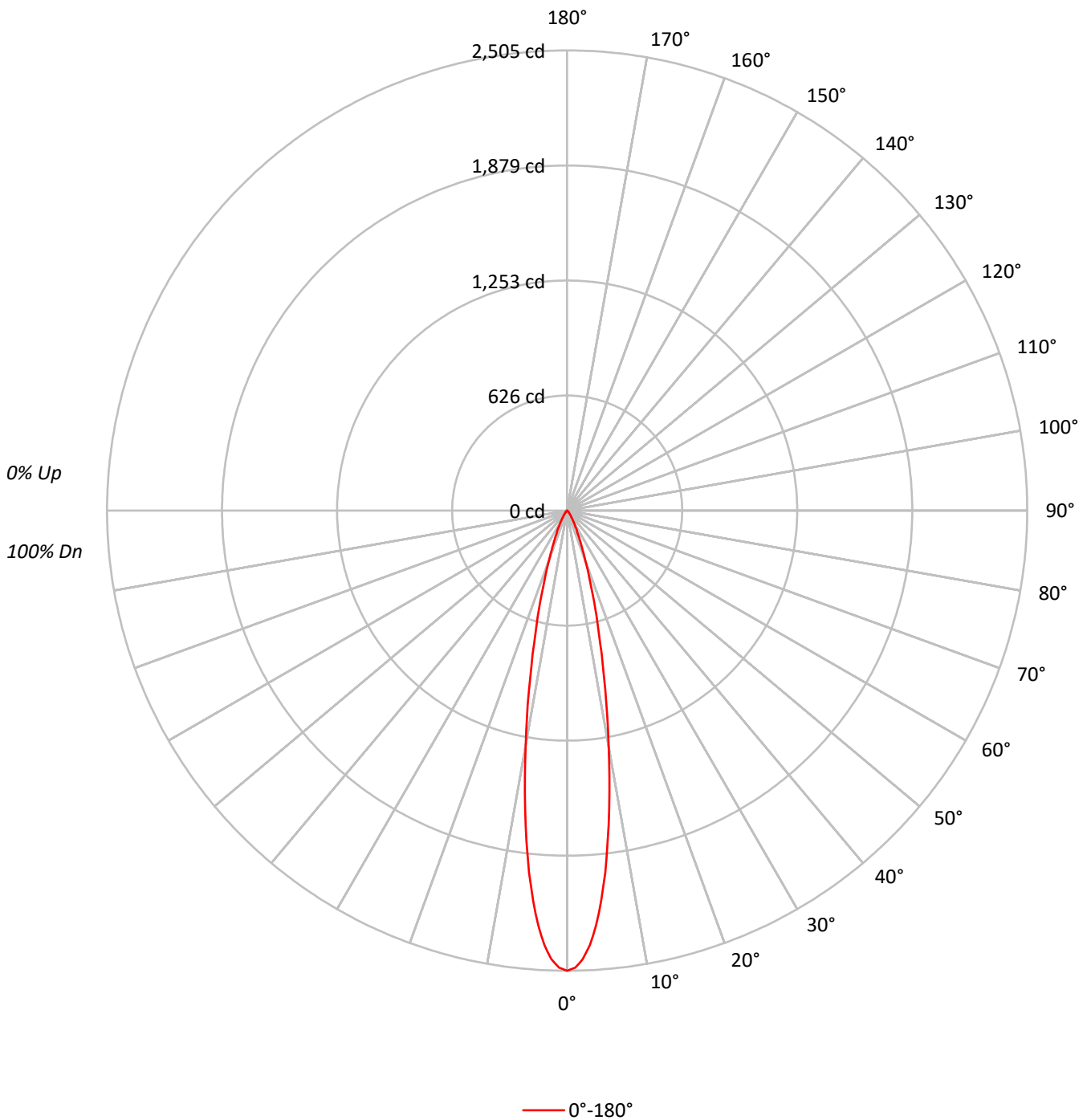
Input Watts (W): 11.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	97
2	111	107	104	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	99	96	106	102	98	96	99	96	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	91	96	93	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	88	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	91	87	84	90	86	84	89	86	83	87	85	83	82
7	95	89	85	82	94	88	84	82	87	84	81	86	83	81	85	82	80	79
8	93	86	82	79	92	86	82	79	85	81	79	84	81	78	83	80	78	77
9	90	84	80	77	90	83	79	77	83	79	77	82	79	76	81	78	76	75
10	88	81	77	75	87	81	77	75	80	77	75	80	77	74	79	76	74	73

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

	0°
0°	976569
5°	834102
10°	515431
15°	257890
20°	119684
25°	58154
30°	29754
35°	15752
40°	8651
45°	4962
50°	3032
55°	2039
60°	1559
65°	922
70°	1140
75°	0
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.6	38.3
10°-20°	182.2	39.7
20°-30°	66.6	14.5
30°-40°	22.2	4.8
40°-50°	7.6	1.7
50°-60°	3.0	0.7
60°-70°	1.4	0.3
70°-80°	0.4	0.1
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°	424.5	92.5
0°-40°	446.6	97.3
0°-60°	457.2	99.6
0°-90°	459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	459.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2505	
5°	2132	176
15°	639	182
25°	135	67
35°	33	22
45°	9	8
55°	3	3
65°	1	1
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	2505.1
1°	2489.1
2°	2444.0
3°	2367.9
4°	2262.7
5°	2131.5
6°	1981.2
7°	1813.0
8°	1643.7
9°	1470.4
10°	1302.1
11°	1147.9
12°	998.6
13°	861.4
14°	745.2
15°	639.0
17.5°	429.7
20°	288.5
22.5°	195.3
25°	135.2
27.5°	93.2
30°	66.1
32.5°	46.1
35°	33.1
37.5°	24.0
40°	17.0
42.5°	13.0
45°	9.0
47.5°	7.0
50°	5.0
52.5°	4.0
55°	3.0
57.5°	3.0
60°	2.0
62.5°	2.0
65°	1.0
67.5°	1.0
70°	1.0
72.5°	1.0
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0



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**CANDELA DISTRIBUTION (continued):**

90° |  $\frac{0^\circ}{0.0}$

(END OF REPORT)