

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: P300481

Luminaire Tested: **ML4D09_27D2WE - TIR45SP15 - TL43R2GGBBB - TL44S2GGBBB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P300481
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-61)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09_27D2WE - TIR45SP15 - TL43R2GG BBB - TL44S2GG BBB
Description: ML4 2700K, 900LM DIM-TO-WARM, 15 DEG SP OPTIC, WITH ROUND/SQUARE
DIFFUSED CLEAR LENS, GERMAN BRONZE 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: 458.0 lumens
Efficiency: N/A
Efficacy: 40.9 lumens/watt
Spacing Criteria (0/90/45): 0.36 / 0.36 / 0.38
Luminous Opening: Circular (Dia: 0.19' x H: 0')
CIE Type: Direct

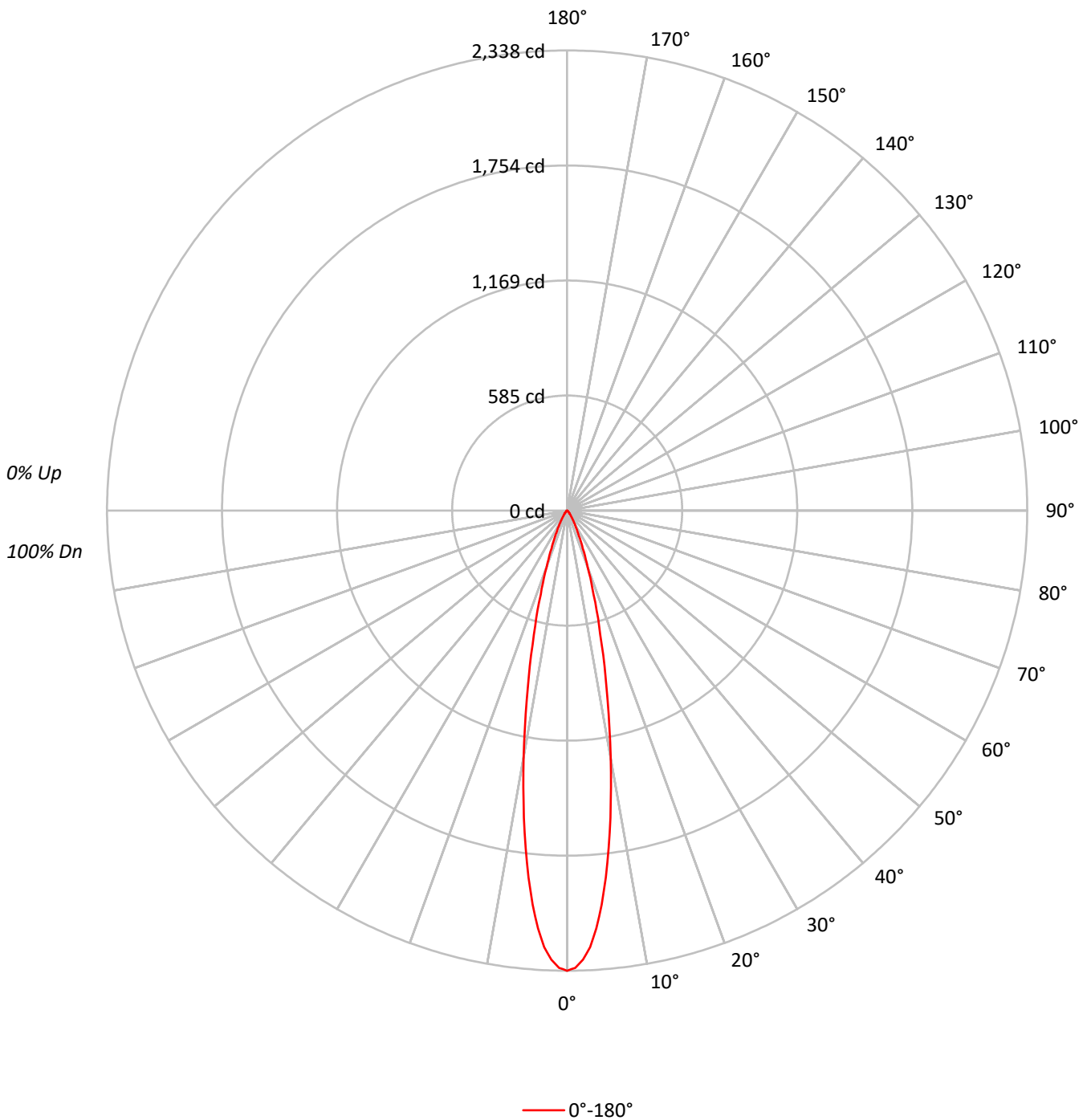
Input Watts (W): 11.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	911584
5°	786321
10°	503358
15°	262653
20°	126073
25°	61079
30°	31060
35°	16656
40°	9160
45°	5513
50°	3639
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°	167.1	36.5
10°-20°	184.3	40.2
20°-30°	70.4	15.4
30°-40°	23.3	5.1
40°-50°	8.0	1.7
50°-60°	3.1	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°	421.8	92.1
0°-40°	445.2	97.2
0°-60°	456.3	99.6
0°-90°	458.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	458.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	2338	
5°	2009	167
15°	651	184
25°	142	70
35°	35	23
45°	10	8
55°	3	3
65°	1	1
75°	0	0
85°	0	0
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	2338.4
1°	2323.4
2°	2283.4
3°	2221.4
4°	2127.4
5°	2009.4
6°	1874.5
7°	1726.5
8°	1576.6
9°	1423.6
10°	1271.6
11°	1124.7
12°	986.7
13°	867.8
14°	755.8
15°	650.8
17.5°	446.9
20°	303.9
22.5°	207.9
25°	142.0
27.5°	99.0
30°	69.0
32.5°	49.0
35°	35.0
37.5°	25.0
40°	18.0
42.5°	13.0
45°	10.0
47.5°	7.0
50°	6.0
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)