

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: P300496

Luminaire Tested: **ML4D09_27D2WE - TIR45NFL25 - TL43R2GGBBB - TL44S2GGBBB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P300496
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-6)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09_27D2WE - TIR45NFL25 - TL43R2GGBBB - TL44S2GGBBB
Description: ML4 2700K, 900LM DIM-TO-WARM, 25 DEG NFL 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: 489.0 lumens
Efficiency: N/A
Efficacy: 43.7 lumens/watt
Spacing Criteria (0/90/45): 0.46 / 0.46 / 0.48
Luminous Opening: Circular (Dia: 0.19' x H: 0')
CIE Type: Direct

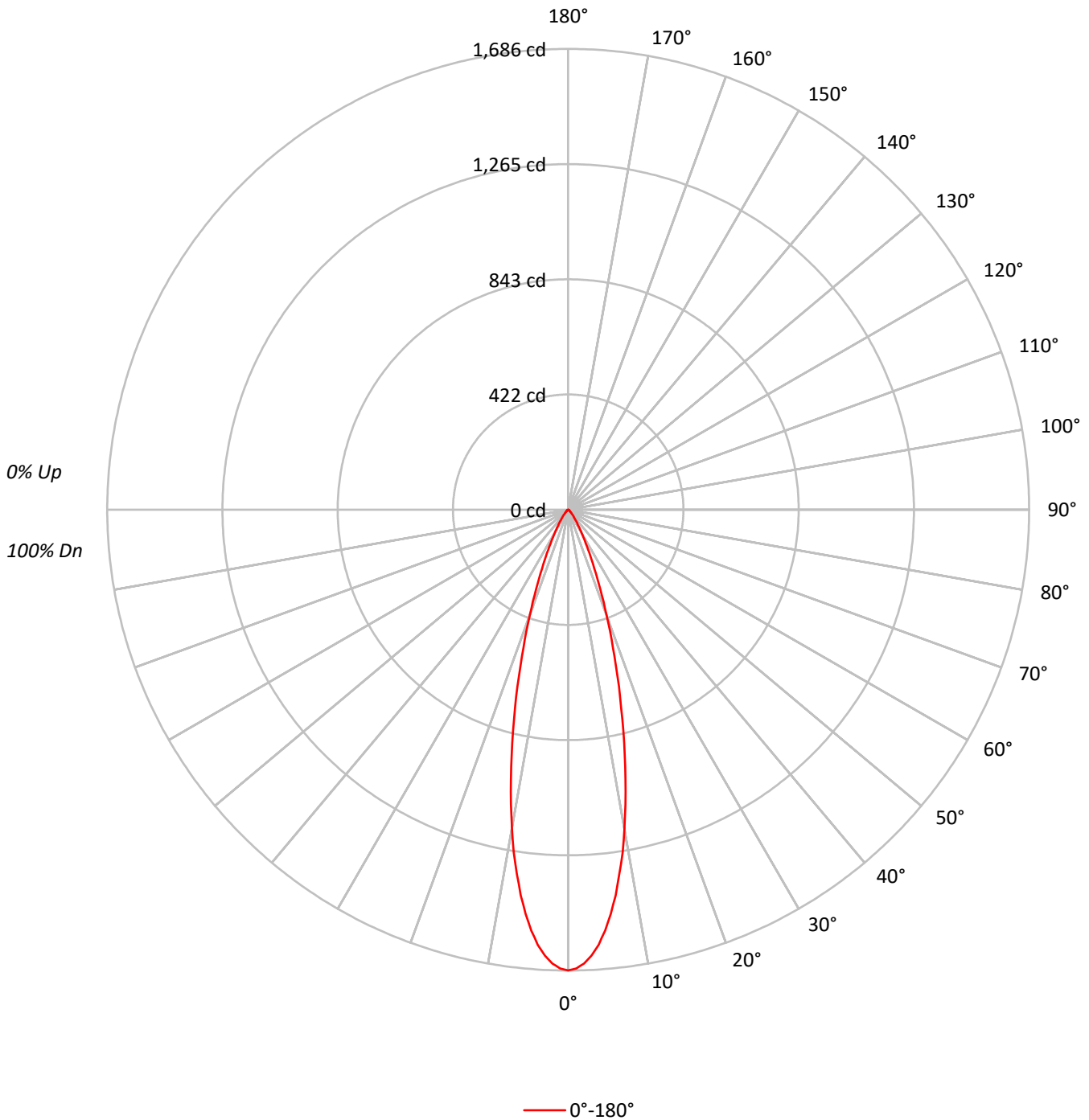
Input Watts (W): 11.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	105	102	99	102	99	97	99	97	95	96	94	93	92
3	106	101	97	94	104	100	96	93	97	94	92	95	92	90	93	91	89	88
4	102	96	92	89	101	95	91	88	93	90	87	92	89	86	90	87	85	84
5	99	92	88	84	97	91	87	84	90	86	83	88	85	83	87	84	82	81
6	95	89	84	81	94	88	83	80	86	83	80	85	82	79	84	81	79	78
7	92	85	80	77	91	85	80	77	83	80	77	82	79	76	81	78	76	75
8	89	82	77	74	88	82	77	74	81	77	74	80	76	74	79	76	73	72
9	87	79	75	72	86	79	74	71	78	74	71	77	74	71	76	73	71	70
10	84	76	72	69	83	76	72	69	75	71	69	75	71	69	74	71	68	67

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	657062
5°	604826
10°	468682
15°	302406
20°	169093
25°	86371
30°	43619
35°	22843
40°	12722
45°	7167
50°	4245
55°	2719
60°	2339
65°	1845
70°	1140
75°	1506
80°	0
85°	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.8	27.8
10°-20°	205.8	42.1
20°-30°	97.9	20.0
30°-40°	32.3	6.6
40°-50°	10.9	2.2
50°-60°	4.0	0.8
60°-70°	1.7	0.4
70°-80°	0.7	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°	439.5	89.9
0°-40°	471.8	96.5
0°-60°	486.6	99.5
0°-90°	489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	489.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1686	
5°	1546	136
15°	749	206
25°	201	98
35°	48	32
45°	13	11
55°	4	4
65°	2	2
75°	1	1
85°	0	0
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1685.5
1°	1678.5
2°	1661.5
3°	1633.6
4°	1595.6
5°	1545.6
6°	1486.7
7°	1421.7
8°	1345.8
9°	1270.9
10°	1184.0
11°	1098.0
12°	1008.1
13°	919.2
14°	836.3
15°	749.3
17.5°	560.5
20°	407.6
22.5°	288.7
25°	200.8
27.5°	139.9
30°	96.9
32.5°	67.9
35°	48.0
37.5°	34.0
40°	25.0
42.5°	18.0
45°	13.0
47.5°	10.0
50°	7.0
52.5°	6.0
55°	4.0
57.5°	3.0
60°	3.0
62.5°	2.0
65°	2.0
67.5°	1.0
70°	1.0
72.5°	1.0
75°	1.0
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)