

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: P300508

Luminaire Tested: **ML4D09\_27D2WE - TIR45FL40 - TL43R2GMWBB - TL44S2GMWBB**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P300508  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-20)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML4D09\_27D2WE - TIR45FL40 - TL43R2GMWBB - TL44S2GMWBB  
Description: ML4 2700K, 900LM DIM-TO-WARM, 40 DEG FL OPTIC, WITH ROUND/SQUARE  
DIFFUSED CLEAR LENS, MATTE WHITE 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: 516.0 lumens  
Efficiency: N/A  
Efficacy: 46.1 lumens/watt  
Spacing Criteria (0/90/45): 0.58 / 0.58 / 0.57  
Luminous Opening: Circular (Dia: 0.19' x H: 0')  
CIE Type: Direct

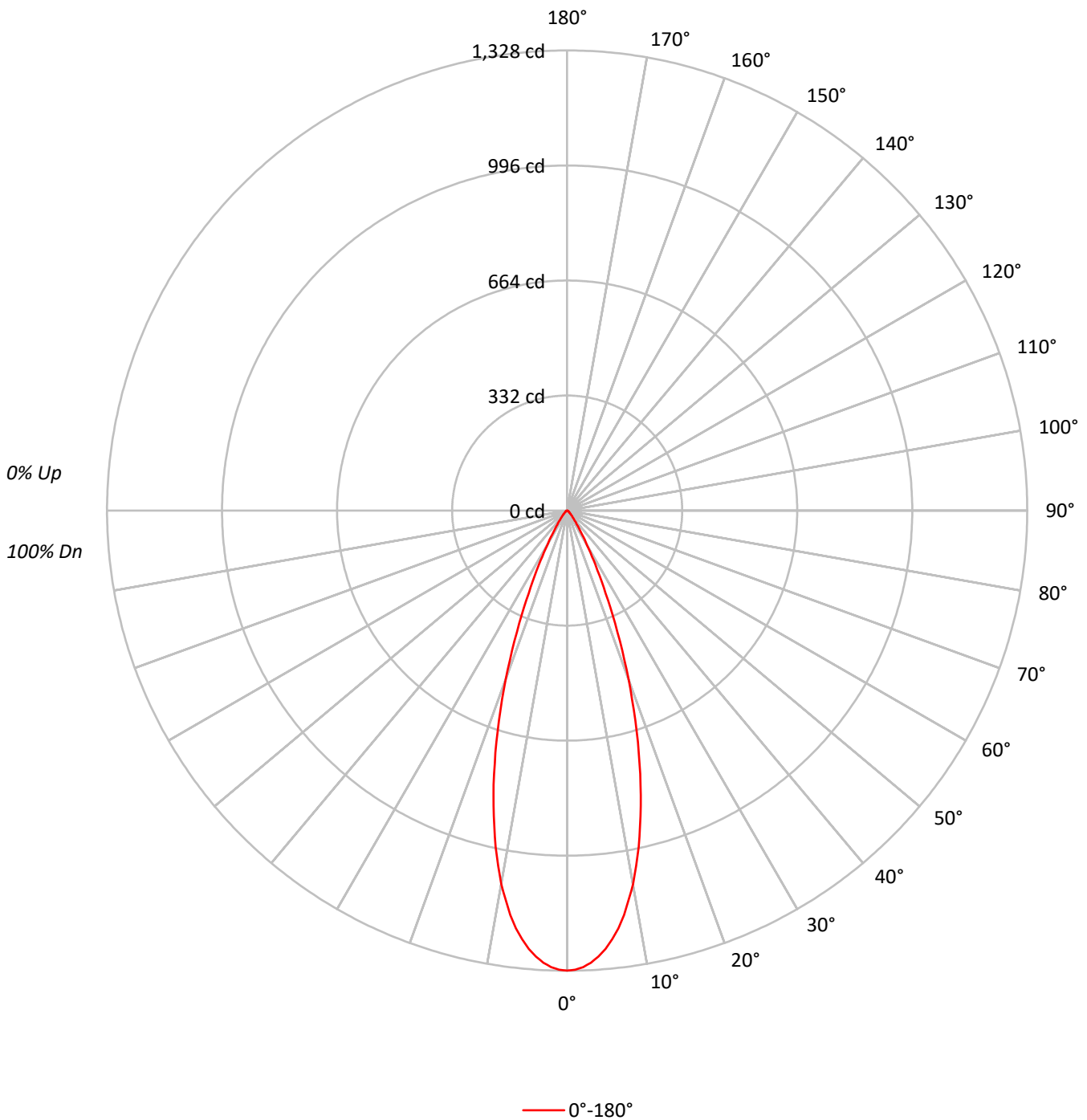
Input Watts (W): 11.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	102	100	108	104	101	99	101	99	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	89	92	90	88	87
4	102	95	91	87	100	94	90	87	92	89	86	90	87	85	89	86	84	83
5	98	91	86	83	96	90	86	82	89	85	82	87	84	81	86	83	80	79
6	94	87	82	79	93	86	82	78	85	81	78	84	80	77	82	79	77	76
7	91	83	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73
8	88	80	75	72	87	80	75	72	79	74	71	78	74	71	77	73	71	70
9	85	77	72	69	84	77	72	69	76	72	69	75	71	68	74	71	68	67
10	82	74	69	66	81	74	69	66	73	69	66	72	69	66	72	68	66	65

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

	0°
0°	517502
5°	496783
10°	433214
15°	330656
20°	215391
25°	113168
30°	51316
35°	23319
40°	12722
45°	7718
50°	5458
55°	3398
60°	2339
65°	1845
70°	1140
75°	0
80°	0
85°	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.6	22.4
10°-20°	222.0	43.0
20°-30°	125.2	24.3
30°-40°	34.5	6.7
40°-50°	11.6	2.3
50°-60°	4.9	0.9
60°-70°	1.7	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°	462.8	89.7
0°-40°	497.3	96.4
0°-60°	513.9	99.6
0°-90°	516.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	516.0	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	1328	
5°	1270	116
15°	819	222
25°	263	125
35°	49	35
45°	14	12
55°	5	5
65°	2	2
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

0°	
0°	1327.5
1°	1325.5
2°	1318.5
3°	1306.5
4°	1290.5
5°	1269.5
6°	1243.5
7°	1214.5
8°	1178.5
9°	1136.4
10°	1094.4
11°	1044.4
12°	992.4
13°	935.4
14°	878.3
15°	819.3
16°	758.3
17°	698.3
18°	637.3
19°	576.2
20°	519.2
21°	461.2
22°	406.2
23°	353.1
24°	307.1
25°	263.1
27.5°	175.1
30°	114.0
32.5°	74.0
35°	49.0
37.5°	34.0
40°	25.0
42.5°	19.0
45°	14.0
47.5°	11.0
50°	9.0
52.5°	7.0
55°	5.0
57.5°	4.0
60°	3.0
62.5°	2.0
65°	2.0
67.5°	1.0
70°	1.0
72.5°	1.0



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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)