

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: P300509

Luminaire Tested: **ML4D09_27D2WE - TIR45FL40 - TL43R2GMBBB - TL44S2GMBBB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P300509
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-21)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09_27D2WE - TIR45FL40 - TL43R2GMBBB - TL44S2GMBBB
Description: ML4 2700K, 900LM DIM-TO-WARM, 40 DEG FL OPTIC, WITH ROUND/SQUARE
DIFFUSED CLEAR LENS, MATTE BLACK 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: 515.0 lumens
Efficiency: N/A
Efficacy: 46.0 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

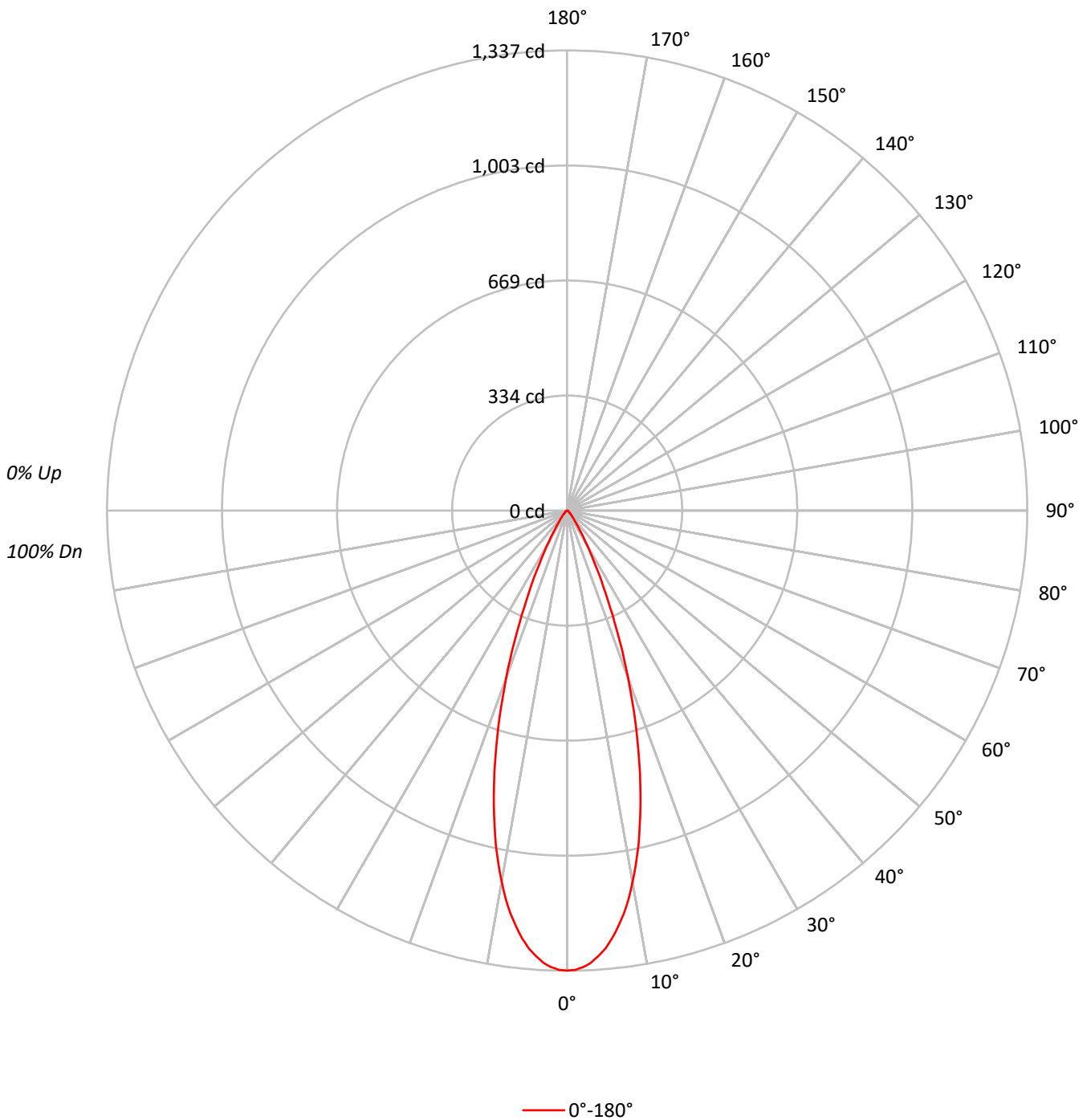
Input Watts (W): 11.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95				95
2	110	106	103	100	108	104	101	99	101	99	97	98	96	94	96	94	93	91				91
3	106	100	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87				87
4	102	96	91	88	100	95	90	87	92	89	86	91	88	85	89	86	84	83				83
5	98	91	86	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79				79
6	94	87	82	79	93	86	82	79	85	81	78	84	80	78	83	80	77	76				76
7	91	84	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73				73
8	88	80	75	72	87	80	75	72	79	75	72	78	74	71	77	74	71	70				70
9	85	77	72	69	84	77	72	69	76	72	69	75	71	69	74	71	68	67				67
10	82	74	70	67	81	74	69	66	73	69	66	73	69	66	72	68	66	65				65

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	521050
5°	499561
10°	433649
15°	331504
20°	214976
25°	112738
30°	50461
35°	23319
40°	12213
45°	7718
50°	4852
55°	3398
60°	2339
65°	922
70°	1140
75°	0
80°	0
85°	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.1	22.5
10°-20°	222.5	43.2
20°-30°	124.9	24.2
30°-40°	34.2	6.6
40°-50°	11.3	2.2
50°-60°	4.6	0.9
60°-70°	1.5	0.3
70°-80°	0.1	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°	463.4	90.0
0°-40°	497.6	96.6
0°-60°	513.4	99.7
0°-90°	515.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	515.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1337	
5°	1277	116
15°	821	222
25°	262	125
35°	49	34
45°	14	11
55°	5	5
65°	1	1
75°	0	0
85°	0	0
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1336.6
1°	1334.6
2°	1327.6
3°	1315.6
4°	1297.6
5°	1276.6
6°	1249.6
7°	1217.6
8°	1182.6
9°	1141.5
10°	1095.5
11°	1046.5
12°	995.5
13°	937.4
14°	880.4
15°	821.4
16°	760.4
17°	698.3
18°	639.3
19°	577.3
20°	518.2
21°	462.2
22°	406.2
23°	353.2
24°	306.1
25°	262.1
27.5°	174.1
30°	112.1
32.5°	73.0
35°	49.0
37.5°	34.0
40°	24.0
42.5°	18.0
45°	14.0
47.5°	11.0
50°	8.0
52.5°	6.0
55°	5.0
57.5°	4.0
60°	3.0
62.5°	2.0
65°	1.0
67.5°	1.0
70°	1.0
72.5°	0.0



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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)