

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: P300510

Luminaire Tested: **ML4D09_27D2WE - TIR45FL40 - TL43R2GBNBB - TL44S2GBNBB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P300510
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-22)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09_27D2WE - TIR45FL40 - TL43R2GBNBB - TL44S2GBNBB
Description: ML4 2700K, 900LM DIM-TO-WARM, 40 DEG FL 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: 509.0 lumens
Efficiency: N/A
Efficacy: 45.4 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

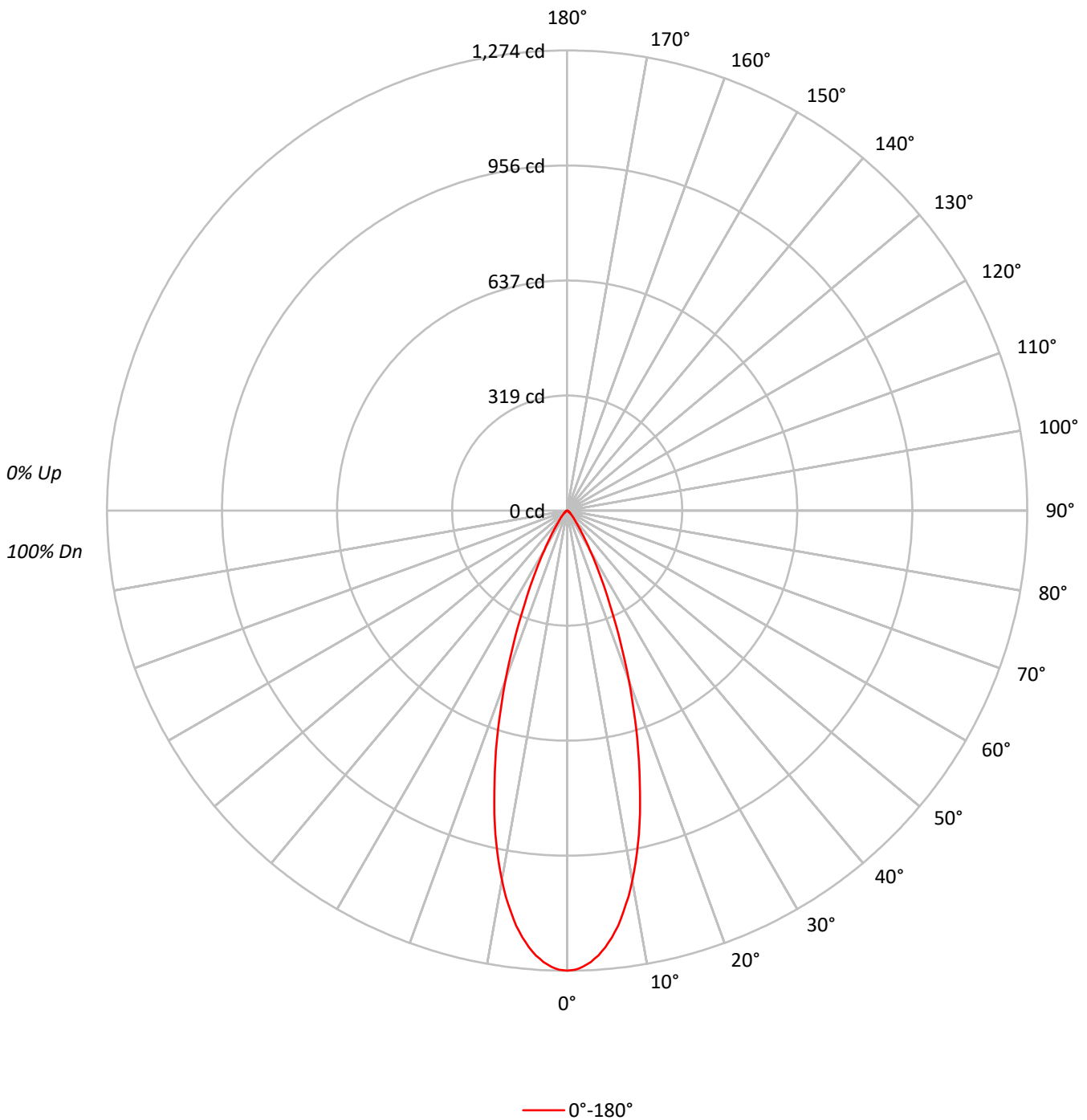
Input Watts (W): 11.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
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	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90		
3	105	100	96	92	103	99	95	92	96	93	90	94	91	89	92	89	87	86		
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	85	83	82		
5	97	90	86	82	96	89	85	82	88	84	81	86	83	80	85	82	80	78		
6	94	86	81	78	92	86	81	78	84	80	77	83	79	77	82	78	76	75		
7	90	83	78	74	89	82	77	74	81	77	74	80	76	73	79	75	73	72		
8	87	79	74	71	86	79	74	71	78	73	70	77	73	70	76	72	70	69		
9	84	76	71	68	83	76	71	68	75	70	67	74	70	67	73	70	67	66		
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	65	63		

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	496529
5°	474986
10°	411640
15°	313666
20°	206388
25°	113856
30°	56222
35°	27554
40°	14758
45°	9372
50°	6065
55°	4078
60°	3119
65°	1845
70°	1140
75°	1506
80°	0
85°	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.3	21.7
10°-20°	211.4	41.5
20°-30°	125.4	24.6
30°-40°	39.5	7.8
40°-50°	13.6	2.7
50°-60°	5.8	1.1
60°-70°	2.3	0.5
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°	447.1	87.8
0°-40°	486.6	95.6
0°-60°	506.0	99.4
0°-90°	509.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	509.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1274	
5°	1214	110
15°	777	211
25°	265	125
35°	58	39
45°	17	14
55°	6	6
65°	2	2
75°	1	1
85°	0	0
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1273.7
1°	1271.7
2°	1263.7
3°	1251.7
4°	1234.7
5°	1213.8
6°	1187.8
7°	1157.8
8°	1120.9
9°	1082.9
10°	1039.9
11°	992.0
12°	943.0
13°	891.1
14°	834.1
15°	777.2
16°	722.3
17°	665.3
18°	609.4
19°	551.4
20°	497.5
21°	445.5
22°	396.6
23°	348.6
24°	303.7
25°	264.7
27.5°	183.8
30°	124.9
32.5°	83.9
35°	57.9
37.5°	40.0
40°	29.0
42.5°	22.0
45°	17.0
47.5°	13.0
50°	10.0
52.5°	8.0
55°	6.0
57.5°	5.0
60°	4.0
62.5°	3.0
65°	2.0
67.5°	2.0
70°	1.0
72.5°	1.0



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CANDELA DISTRIBUTION (continued):

	0°
75°	1.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)