

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: P300512

Luminaire Tested: **ML4D09_27D2WE - TIR45FL40 - TL43R2GBCUBB - TL44S2GBCUBB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P300512
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1902-156-24)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09_27D2WE - TIR45FL40 - TL43R2GBCUBB - TL44S2GBCUBB
Description: ML4 2700K, 900LM DIM-TO-WARM, 40 DEG FL OPTIC, WITH ROUND/SQUARE
DIFFUSED CLEAR LENS, BRUSHED COPPER 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: 504.0 lumens
Efficiency: N/A
Efficacy: 45.0 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

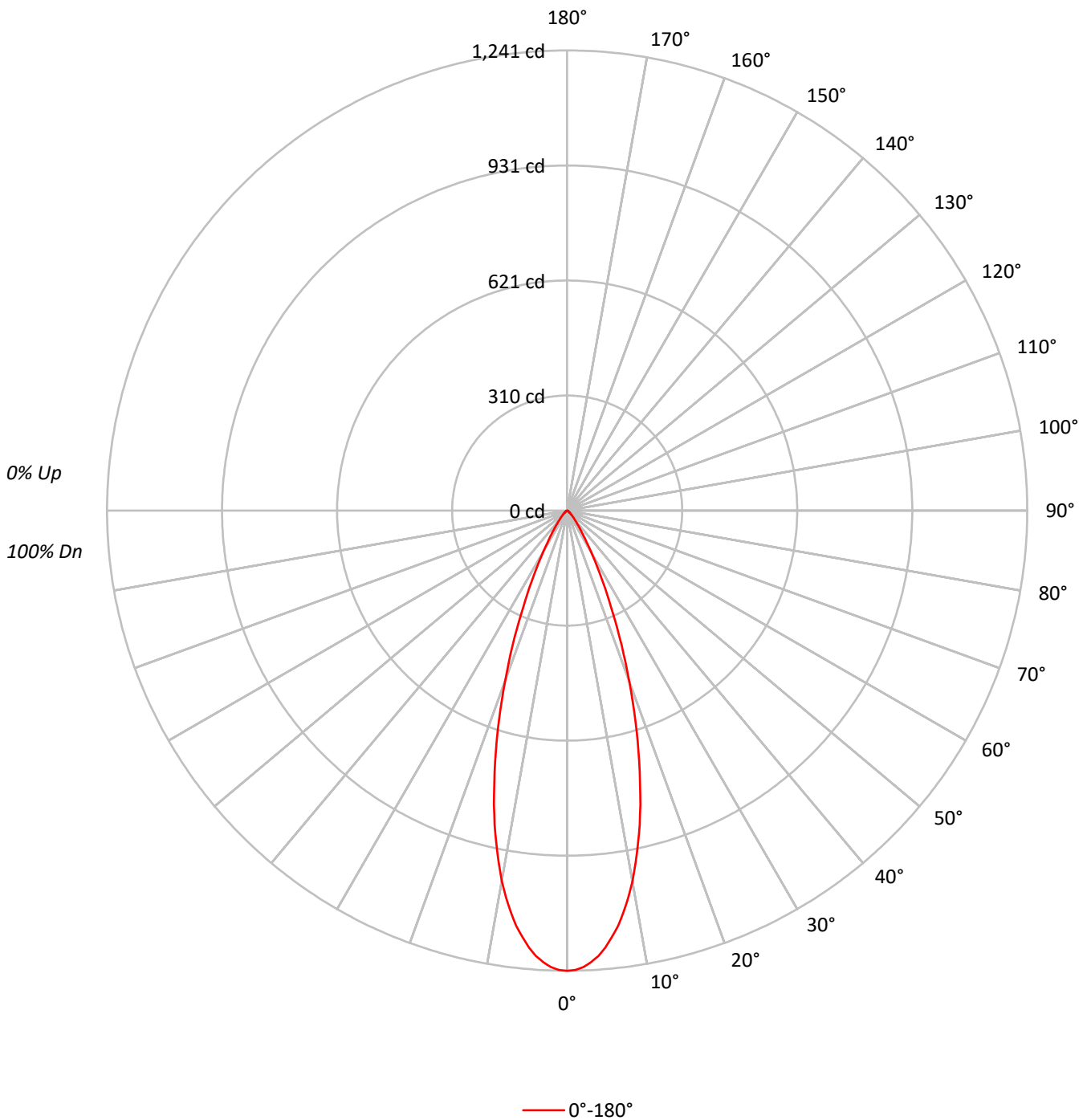
Input Watts (W): 11.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	105	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90
3	105	100	96	92	103	98	95	91	96	93	90	94	91	89	91	89	87	86
4	101	95	90	86	99	94	89	86	92	88	85	90	87	84	88	85	83	82
5	97	90	85	82	96	89	85	81	88	84	81	86	83	80	85	82	79	78
6	93	86	81	77	92	85	81	77	84	80	77	83	79	76	81	78	76	74
7	90	82	77	74	89	82	77	74	80	76	73	79	76	73	78	75	72	71
8	87	79	74	70	86	78	74	70	77	73	70	76	73	70	75	72	69	68
9	84	76	71	67	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	72	68	65	72	67	64	71	67	64	70	67	64	63

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	483860
5°	462972
10°	401744
15°	306603
20°	203070
25°	114501
30°	58113
35°	29077
40°	15776
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°	107.5	21.3
10°-20°	206.7	41.0
20°-30°	125.5	24.9
30°-40°	41.6	8.3
40°-50°	14.0	2.8
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°	439.6	87.2
0°-40°	481.2	95.5
0°-60°	501.0	99.4
0°-90°	504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	504.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1241	
5°	1183	107
15°	760	207
25°	266	125
35°	61	42
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°	1241.2
1°	1239.2
2°	1232.1
3°	1220.1
4°	1204.1
5°	1183.1
6°	1156.1
7°	1128.0
8°	1093.0
9°	1055.0
10°	1014.9
11°	966.9
12°	918.9
13°	868.8
14°	816.8
15°	759.7
16°	704.7
17°	650.6
18°	595.6
19°	542.5
20°	489.5
21°	439.4
22°	392.4
23°	346.3
24°	304.3
25°	266.2
27.5°	186.2
30°	129.1
32.5°	88.1
35°	61.1
37.5°	43.0
40°	31.0
42.5°	23.0
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)