

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: P189468

Luminaire Tested: **ML4D09NFL9270-TIR50FL40-TL43R2G_X_TL44S2GX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189468
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P189401)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09NFL9270-TIR50FL40-TL43R2G_X_TL44S2GX
Description: ML4 RECESSED DOWNLIGHT WITH 40° FLOOD OPTIC WITH LENSED ROUND (OR SQUARE)
Light Source: CITIZEN 2700K
CLU711
Ballast/Driver: UNV-120-277 ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 869.7 lumens
Efficiency: N/A
Efficacy: 70.7 lumens/watt
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.62
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

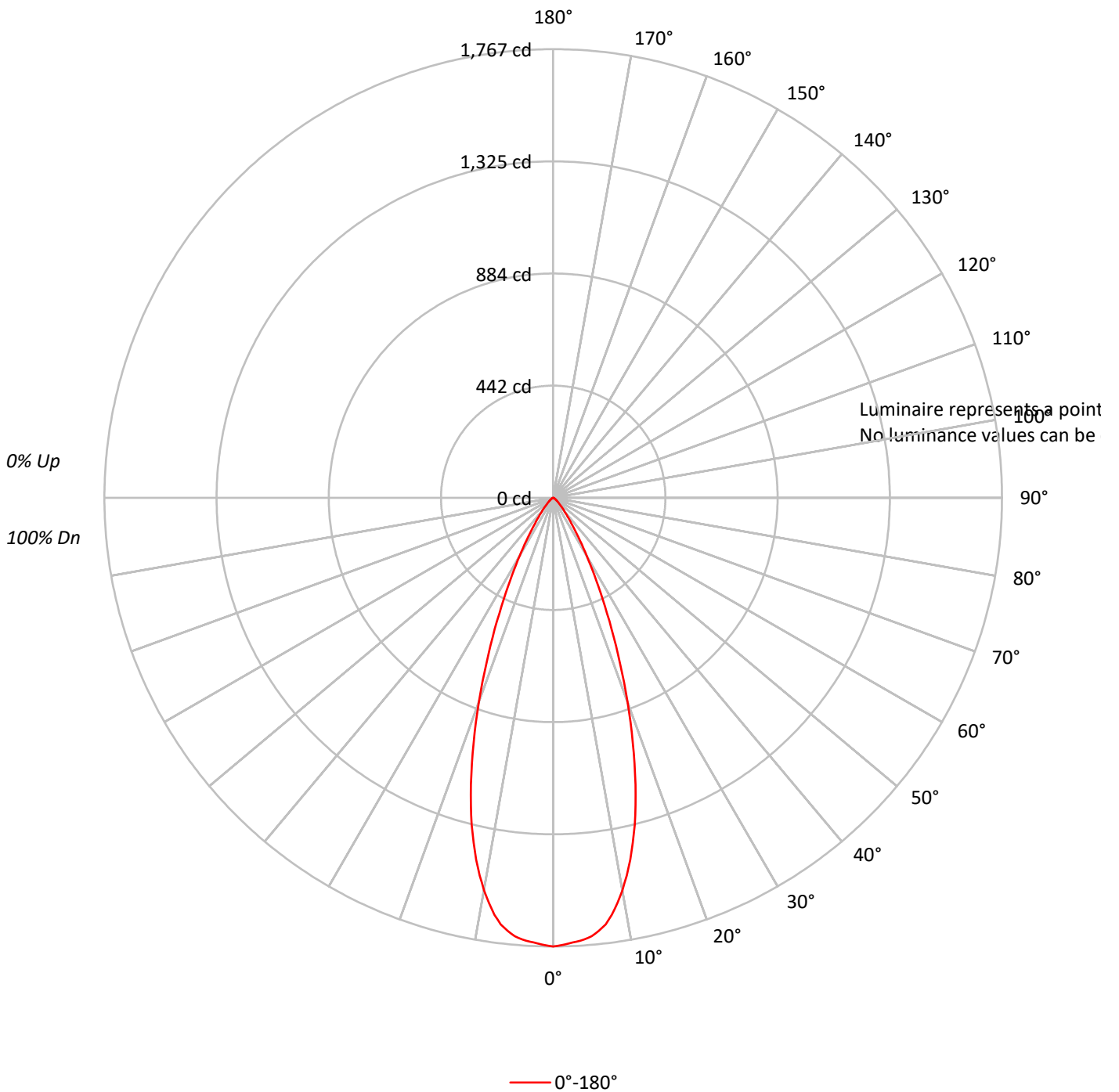
Input Watts (W): 12.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





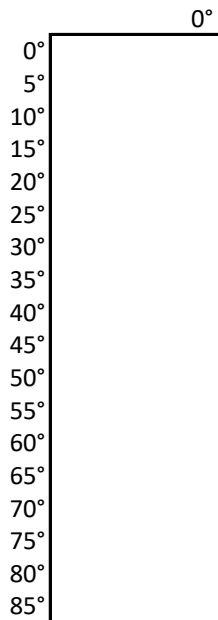
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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	109	107	112	109	107	106	105	104	102		102	100	99		98	97	96	95
2	109	105	101	98	107	103	100	97	100	97	95		97	95	93		94	93	91	89
3	105	99	94	91	103	97	93	90	95	92	89		93	90	87		90	88	86	85
4	100	93	89	85	98	92	88	84	90	86	83		88	85	82		87	84	82	80
5	96	89	84	80	94	88	83	79	86	82	79		84	81	78		83	80	77	76
6	92	84	79	75	91	84	79	75	82	78	75		81	77	74		80	76	74	72
7	88	80	75	71	87	80	75	71	79	74	71		77	73	71		76	73	70	69
8	85	77	72	68	84	76	71	68	75	71	68		74	70	67		73	70	67	66
9	82	73	68	65	81	73	68	65	72	68	64		71	67	64		70	67	64	63
10	79	70	65	62	78	70	65	62	69	65	62		68	64	62		68	64	61	60

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.4	18.4
10°-20°	339.7	39.1
20°-30°	233.2	26.8
30°-40°	87.1	10.0
40°-50°	29.4	3.4
50°-60°	11.2	1.3
60°-70°	5.2	0.6
70°-80°	2.6	0.3
80°-90°	0.7	0.1
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°	733.3	84.3
0°-40°	820.5	94.3
0°-60°	861.1	99.0
0°-90°	869.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	869.7	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1767	
5°	1733	160
15°	1252	340
25°	502	233
35°	130	87
45°	36	29
55°	12	11
65°	5	5
75°	3	3
85°	1	1
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1767.1
1°	1762.5
2°	1756.1
3°	1750.6
4°	1744.1
5°	1733.2
6°	1715.7
7°	1692.7
8°	1658.7
9°	1615.5
10°	1568.7
11°	1515.3
12°	1457.4
13°	1394.0
14°	1327.0
15°	1252.5
16°	1175.3
17°	1094.4
18°	1014.5
19°	933.6
20°	854.6
21°	776.5
22°	703.0
23°	632.2
24°	565.1
25°	501.8
26°	444.8
27°	392.4
28°	345.5
29°	302.3
30°	262.8
32.5°	183.8
35°	129.6
37.5°	91.9
40°	66.1
42.5°	48.7
45°	35.9
47.5°	26.7
50°	20.2
52.5°	15.6
55°	11.9
57.5°	9.2
60°	7.4
62.5°	6.4
65°	4.6



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CANDELA DISTRIBUTION (continued):

	0°
67.5°	4.6
70°	3.7
72.5°	2.7
75°	2.7
77.5°	1.8
80°	1.8
82.5°	0.9
85°	0.9
87.5°	0.0
90°	0.0

(END OF REPORT)