

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: P189479

Luminaire Tested: **ML4D09NFL935-TIR50NFL25-TL43R2G_X_TL44S2GX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189479
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P189395)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09NFL935-TIR50NFL25-TL43R2G_X_TL44S2GX
Description: ML4 RECESSED DOWNLIGHT WITH 25° NARROW FLOOD OPTIC WITH LENSED ROUND (OR SQUARE)
Light Source: CITIZEN 3500K
CLU711
Ballast/Driver: UNV-120-277 ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 934.7 lumens
Efficiency: N/A
Efficacy: 78.2 lumens/watt
Spacing Criteria (0/90/45): 0.39 / 0.39 / 0.37
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

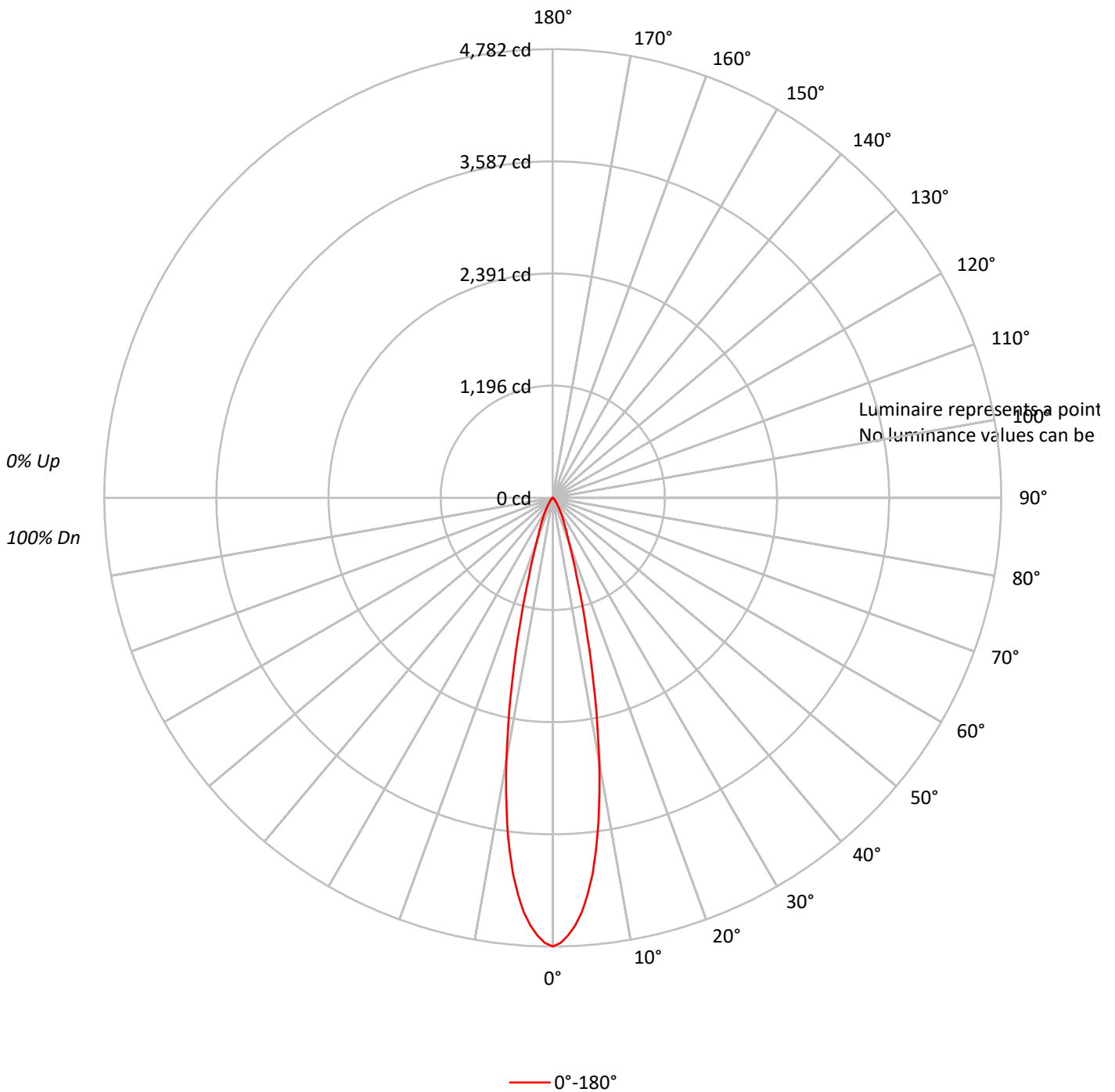
Input Watts (W): 11.95
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





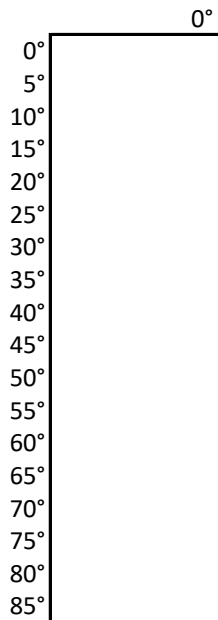
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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	115	113	111	109	112	111	109	107	107	105	104		103	102	101		100	99	98	96
2	111	107	104	102	109	106	103	100	102	100	98		100	98	96		97	96	94	93
3	107	103	99	96	106	101	98	95	99	96	94		96	94	92		94	92	91	90
4	104	98	94	91	102	97	94	91	95	92	90		94	91	89		92	90	88	87
5	101	95	91	88	99	94	90	87	92	89	86		91	88	86		89	87	85	84
6	98	92	87	84	97	91	87	84	90	86	83		88	85	83		87	84	82	81
7	95	89	84	81	94	88	84	81	87	83	81		86	83	80		85	82	80	79
8	93	86	82	79	92	85	81	79	84	81	78		84	80	78		83	80	78	77
9	90	83	79	77	89	83	79	76	82	79	76		82	78	76		81	78	76	75
10	88	81	77	74	87	81	77	74	80	77	74		80	76	74		79	76	74	73

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.4	38.6
10°-20°	366.8	39.2
20°-30°	127.5	13.6
30°-40°	49.0	5.2
40°-50°	16.9	1.8
50°-60°	6.4	0.7
60°-70°	3.7	0.4
70°-80°	2.7	0.3
80°-90°	1.3	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°	854.7	91.4
0°-40°	903.7	96.7
0°-60°	927.0	99.2
0°-90°	934.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	934.7	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	4782	
5°	4249	360
15°	1271	367
25°	269	127
35°	73	49
45°	20	17
55°	7	6
65°	4	4
75°	3	3
85°	1	1
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	4782.1
1°	4744.4
2°	4668.1
3°	4564.1
4°	4429.2
5°	4248.9
6°	4036.8
7°	3786.0
8°	3495.6
9°	3178.5
10°	2845.5
11°	2501.6
12°	2160.7
13°	1832.5
14°	1534.3
15°	1270.6
16°	1049.6
17°	867.2
18°	717.6
19°	603.6
20°	514.4
21°	443.0
22°	386.6
23°	341.0
24°	301.3
25°	268.6
26°	237.9
27°	210.1
28°	184.3
29°	161.6
30°	141.7
32.5°	102.1
35°	73.3
37.5°	53.6
40°	39.7
42.5°	28.8
45°	19.8
47.5°	14.9
50°	10.9
52.5°	8.0
55°	6.9
57.5°	5.9
60°	5.0
62.5°	4.0
65°	4.0



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CANDELA DISTRIBUTION (continued):

	0°
67.5°	3.0
70°	3.0
72.5°	3.0
75°	3.0
77.5°	1.9
80°	1.9
82.5°	1.9
85°	1.0
87.5°	1.0
90°	0.0

(END OF REPORT)