

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: P189493

Luminaire Tested: **ML4D09NFL940-TIR50WFL55-TL43R2G_X_TL44S2GX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189493
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P189407)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09NFL940-TIR50WFL55-TL43R2G_X_TL44S2GX
Description: ML4 RECESSED DOWNLIGHT WITH 55° WIDE FLOOD OPTIC WITH LENSED ROUND (OR SQUARE)
Light Source: CITIZEN 4000K
CLU711
Ballast/Driver: UNV-120-277 ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 892.7 lumens
Efficiency: N/A
Efficacy: 74.0 lumens/watt
Spacing Criteria (0/90/45): 0.78 / 0.78 / 0.82
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

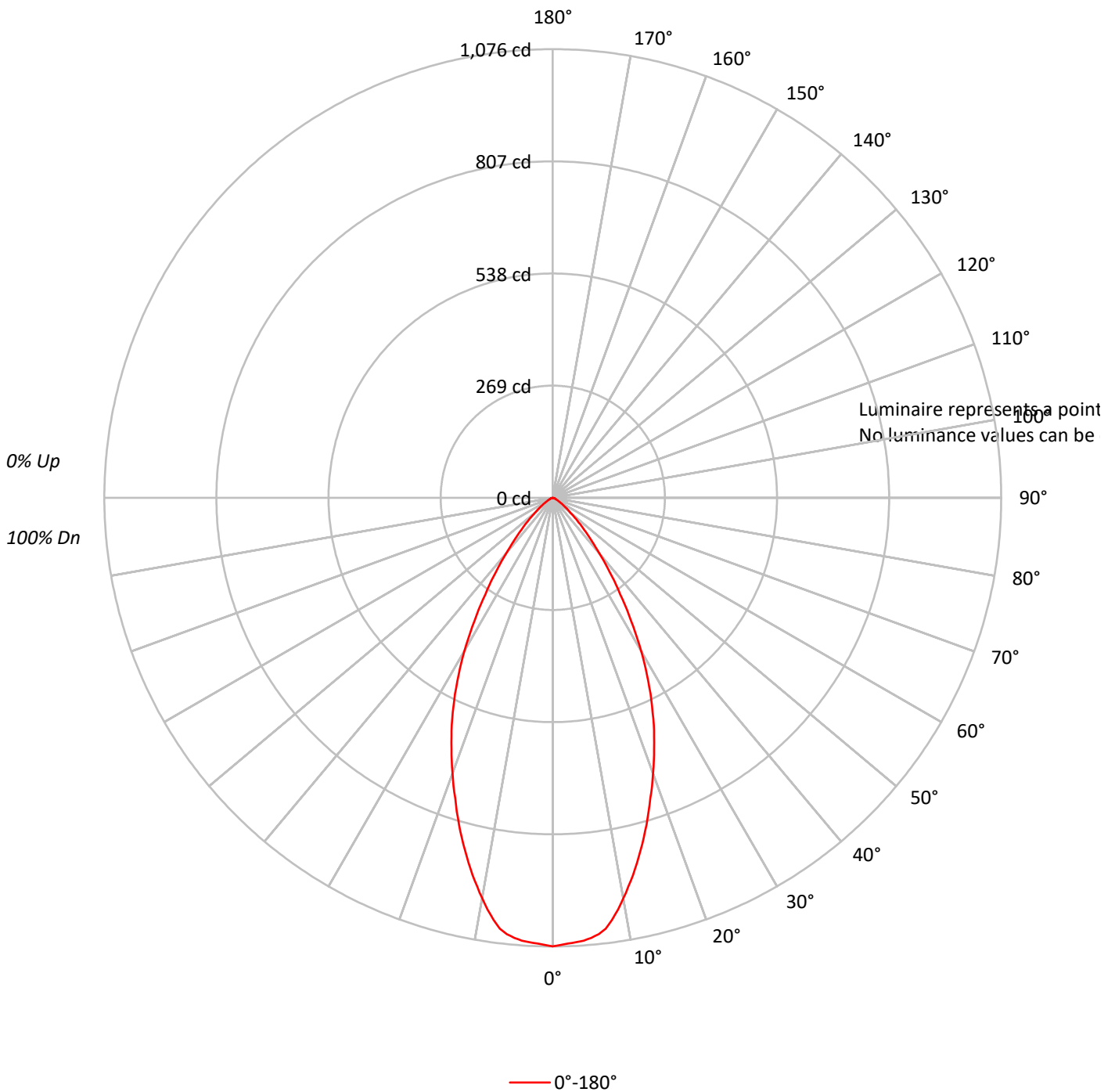
Input Watts (W): 12.06
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





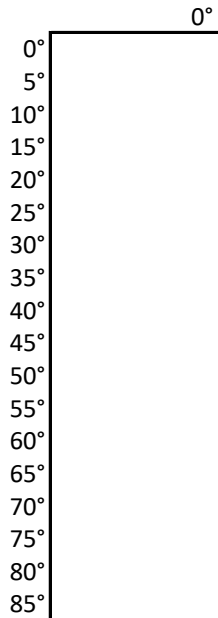
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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	113	110	108	105	111	108	106	104	104	102	100		100	99	97		97	96	95	93
2	107	102	98	94	105	100	97	93	97	94	91		94	92	89		91	89	87	86
3	101	95	90	85	99	93	89	85	91	87	83		88	85	82		86	83	81	79
4	96	88	82	78	94	87	82	77	85	80	77		83	79	76		81	78	75	73
5	91	82	76	72	89	81	76	71	79	74	71		78	73	70		76	72	69	68
6	86	77	71	66	85	76	70	66	75	69	66		73	69	65		72	68	65	63
7	82	72	66	62	80	71	66	61	70	65	61		69	64	61		68	64	60	59
8	78	68	62	57	76	67	61	57	66	61	57		65	60	57		64	60	57	55
9	74	64	58	54	73	63	58	54	63	57	54		62	57	53		61	56	53	52
10	70	60	55	51	69	60	54	50	59	54	50		58	54	50		58	53	50	49

AVERAGE LUMINANCE (cd/sqm):





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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	11.0
10°-20°	234.4	26.3
20°-30°	257.9	28.9
30°-40°	178.2	20.0
40°-50°	81.1	9.1
50°-60°	28.9	3.2
60°-70°	9.6	1.1
70°-80°	3.2	0.4
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°	591.0	66.2
0°-40°	769.2	86.2
0°-60°	879.2	98.5
0°-90°	892.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	892.7	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1076	
5°	1059	99
15°	844	234
25°	567	258
35°	282	178
45°	101	81
55°	30	29
65°	9	10
75°	3	3
85°	1	1
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1075.7
1°	1072.6
2°	1069.6
3°	1067.5
4°	1064.5
5°	1059.4
6°	1052.3
7°	1041.2
8°	1022.0
9°	999.7
10°	975.4
11°	950.1
12°	924.8
13°	898.4
14°	871.0
15°	843.7
16°	815.4
17°	787.0
18°	757.6
19°	731.3
20°	702.9
21°	676.6
22°	649.3
23°	621.9
24°	595.6
25°	567.2
26°	539.9
27°	510.5
28°	482.1
29°	452.7
30°	423.4
32.5°	349.5
35°	281.5
37.5°	224.9
40°	173.2
42.5°	133.7
45°	101.3
47.5°	76.0
50°	55.7
52.5°	41.6
55°	30.4
57.5°	22.3
60°	16.3
62.5°	12.2
65°	9.1



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CANDELA DISTRIBUTION (continued):

	0°
67.5°	7.1
70°	5.1
72.5°	4.1
75°	3.0
77.5°	2.0
80°	1.0
82.5°	1.0
85°	1.0
87.5°	0.0
90°	0.0

(END OF REPORT)