

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: P189492

Luminaire Tested: **ML4D09NFL940-TIR50FL40-TL43R2G_X_TL44S2GX**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189492
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: ML4D09NFL940-TIR50FL40-TL43R2G_X_TL44S2GX
Description: ML4 RECESSED DOWNLIGHT WITH 40° 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: 958.0 lumens
Efficiency: N/A
Efficacy: 79.4 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

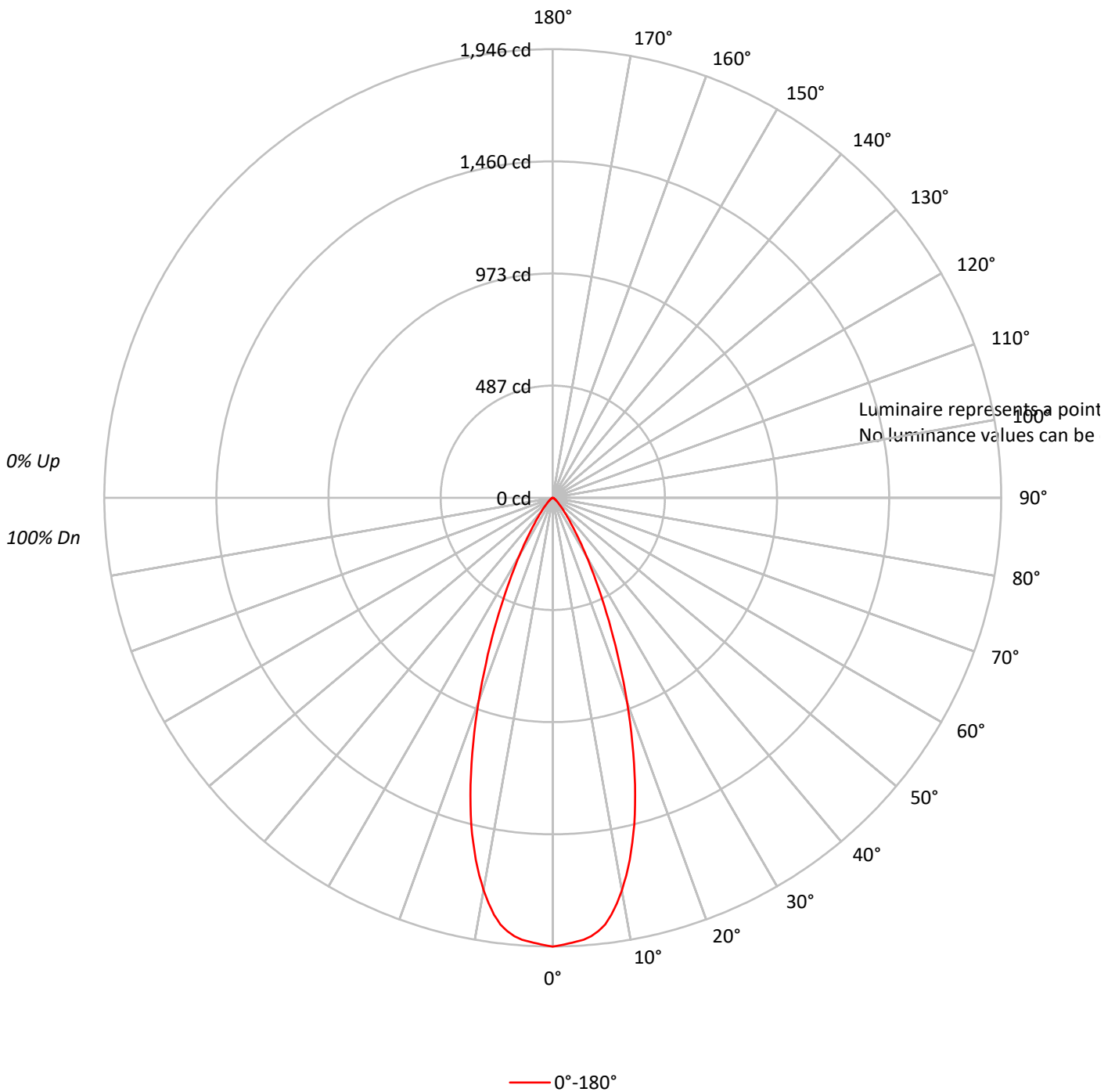
Input Watts (W): 12.06
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





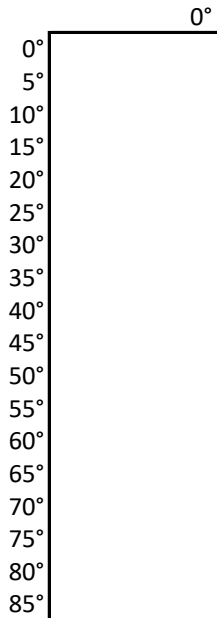
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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	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	91	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°	176.7	18.4
10°-20°	374.2	39.1
20°-30°	256.9	26.8
30°-40°	96.0	10.0
40°-50°	32.4	3.4
50°-60°	12.3	1.3
60°-70°	5.8	0.6
70°-80°	2.9	0.3
80°-90°	0.8	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°	807.7	84.3
0°-40°	903.7	94.3
0°-60°	948.5	99.0
0°-90°	958.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	958.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1946	
5°	1909	177
15°	1380	374
25°	553	257
35°	143	96
45°	40	32
55°	13	12
65°	5	6
75°	3	3
85°	1	1
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	1946.5
1°	1941.4
2°	1934.3
3°	1928.2
4°	1921.1
5°	1909.0
6°	1889.8
7°	1864.5
8°	1827.0
9°	1779.4
10°	1727.8
11°	1669.1
12°	1605.3
13°	1535.5
14°	1461.6
15°	1379.6
16°	1294.6
17°	1205.5
18°	1117.4
19°	1028.3
20°	941.3
21°	855.3
22°	774.3
23°	696.4
24°	622.5
25°	552.7
26°	489.9
27°	432.2
28°	380.5
29°	333.0
30°	289.5
32.5°	202.5
35°	142.8
37.5°	101.2
40°	72.8
42.5°	53.7
45°	39.5
47.5°	29.4
50°	22.3
52.5°	17.2
55°	13.1
57.5°	10.1
60°	8.1
62.5°	7.1
65°	5.1



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CANDELA DISTRIBUTION (continued):

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

(END OF REPORT)