

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311605

Luminaire Tested: **24FCZ2-50-UNV-L82765-S-CP187-W2A-U-6500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P311605
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50-UNV-L82765-S-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 6500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
	AS-5443-2	Good	REFLECTOR
	AS-5443-3	Good	DRIVER
	AS-5443-4	Good	UPPER MODULE
	AS-5443-5	Good	LENS
	AS-5443-6	Good	DRIVER 2
	AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4699.0 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

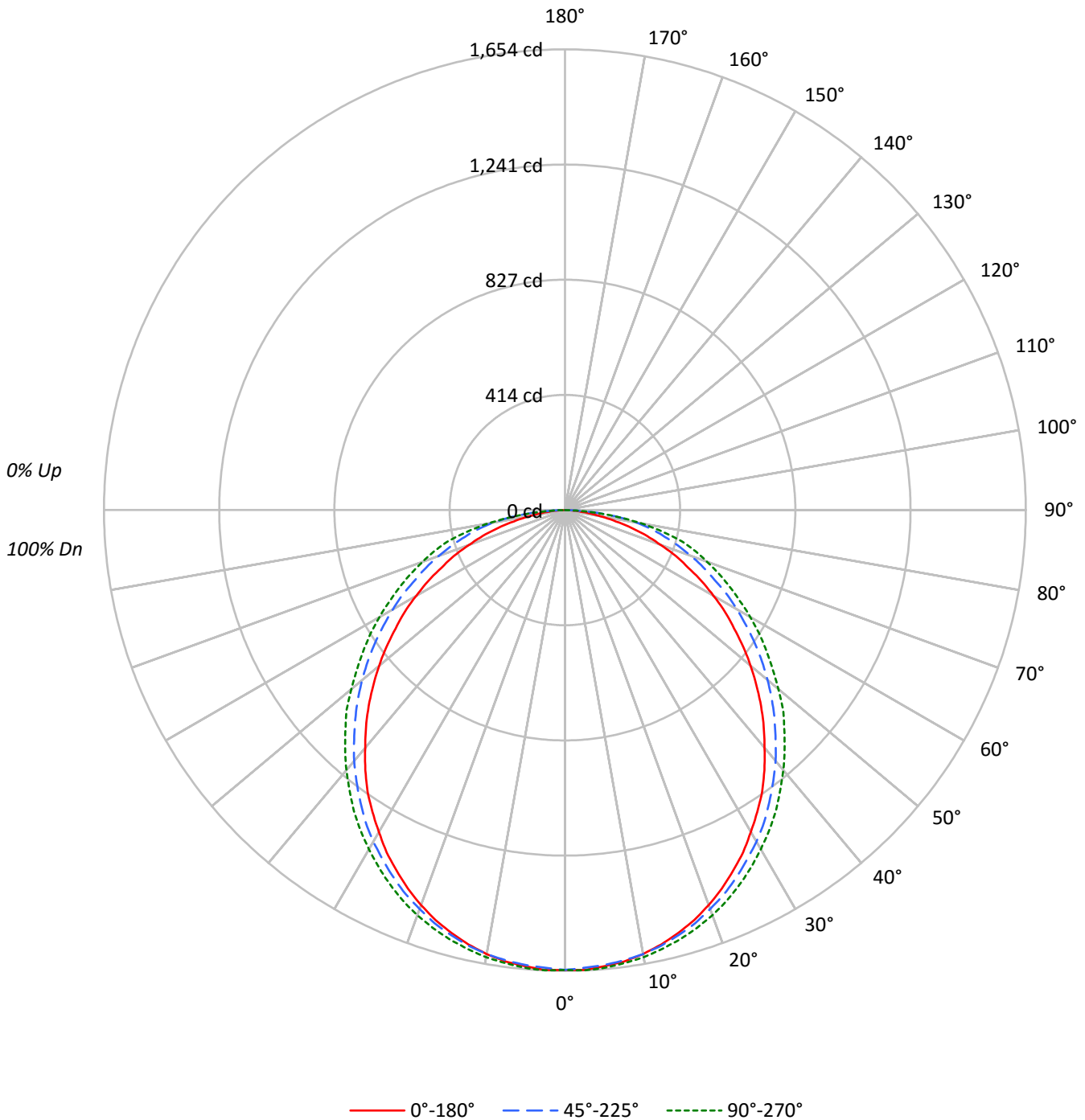
Input Watts (W): 44.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2221	2221	2221
5°	2219	2213	2228
10°	2211	2211	2227
15°	2189	2200	2223
20°	2161	2182	2216
25°	2121	2161	2203
30°	2073	2136	2184
35°	2028	2101	2167
40°	1958	2066	2142
45°	1894	2025	2119
50°	1822	1987	2093
55°	1740	1950	2073
60°	1659	1920	2069
65°	1554	1887	2081
70°	1439	1897	2137
75°	1288	1932	2258
80°	1041	2047	2209
85°	783	1797	1751



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.3	3.3
10°-20°	446.6	9.5
20°-30°	671.3	14.3
30°-40°	799.6	17.0
40°-50°	818.3	17.4
50°-60°	736.7	15.7
60°-70°	578.6	12.3
70°-80°	375.5	8.0
80°-90°	116.1	2.5
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°	1274.1	27.1
0°-40°	2073.7	44.1
0°-60°	3628.8	77.2
0°-90°	4699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4699.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1651	1651	1651	1651	1651	
5°	1643	1646	1639	1648	1649	156
15°	1572	1576	1579	1593	1596	443
25°	1428	1440	1455	1479	1484	658
35°	1234	1249	1279	1310	1319	770
45°	996	1019	1064	1104	1114	768
55°	742	775	831	875	884	665
65°	488	525	593	642	654	486
75°	248	296	372	422	434	262
85°	51	94	116	113	113	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1650.8	1650.8	1650.8	1650.8	1650.8
2.5°	1652.3	1652.3	1644.8	1652.3	1653.8
5°	1643.3	1646.3	1638.8	1647.8	1649.3
7.5°	1634.4	1634.4	1629.9	1638.8	1640.3
10°	1618.0	1619.4	1618.0	1628.4	1629.9
12.5°	1597.1	1600.0	1601.5	1612.0	1613.5
15°	1571.7	1576.2	1579.1	1592.6	1595.6
17.5°	1543.3	1547.8	1555.3	1570.2	1573.2
20°	1509.0	1515.0	1523.9	1543.3	1547.8
22.5°	1471.7	1477.7	1492.6	1510.5	1518.0
25°	1428.4	1440.3	1455.3	1479.1	1483.6
27.5°	1385.1	1395.6	1415.0	1440.3	1446.3
30°	1334.4	1350.8	1374.7	1400.0	1406.0
32.5°	1285.1	1301.5	1329.9	1356.8	1364.2
35°	1234.4	1249.3	1279.1	1310.5	1319.4
37.5°	1176.2	1195.6	1228.4	1259.7	1268.7
40°	1115.0	1138.8	1176.2	1209.0	1219.4
42.5°	1056.7	1082.1	1119.4	1155.3	1167.2
45°	995.5	1019.4	1064.2	1104.5	1113.5
47.5°	932.9	959.7	1007.5	1047.8	1062.7
50°	870.2	898.5	949.3	991.1	1000.0
52.5°	807.5	837.3	891.1	935.8	940.3
55°	741.8	774.6	831.4	874.6	883.6
57.5°	682.1	710.5	771.7	816.4	826.9
60°	616.4	647.8	713.5	755.2	768.7
62.5°	553.7	586.6	655.2	697.0	709.0
65°	488.1	525.4	592.6	641.8	653.7
67.5°	431.4	467.2	538.8	586.6	598.5
70°	365.7	406.0	482.1	531.4	543.3
72.5°	309.0	350.8	426.9	474.6	492.6
75°	247.8	295.5	371.7	422.4	434.3
77.5°	188.1	243.3	320.9	359.7	359.7
80°	134.3	192.5	264.2	282.1	285.1
82.5°	88.1	144.8	195.5	194.0	194.0
85°	50.7	94.0	116.4	113.4	113.4
87.5°	19.4	38.8	41.8	41.8	40.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)