

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: P313284

Luminaire Tested: **24FCZ2-50-UNV-L83050-HRP-CP187-W2A-U-5000K**

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: P313284
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-L83050-HRP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 5000K 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: 3524.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

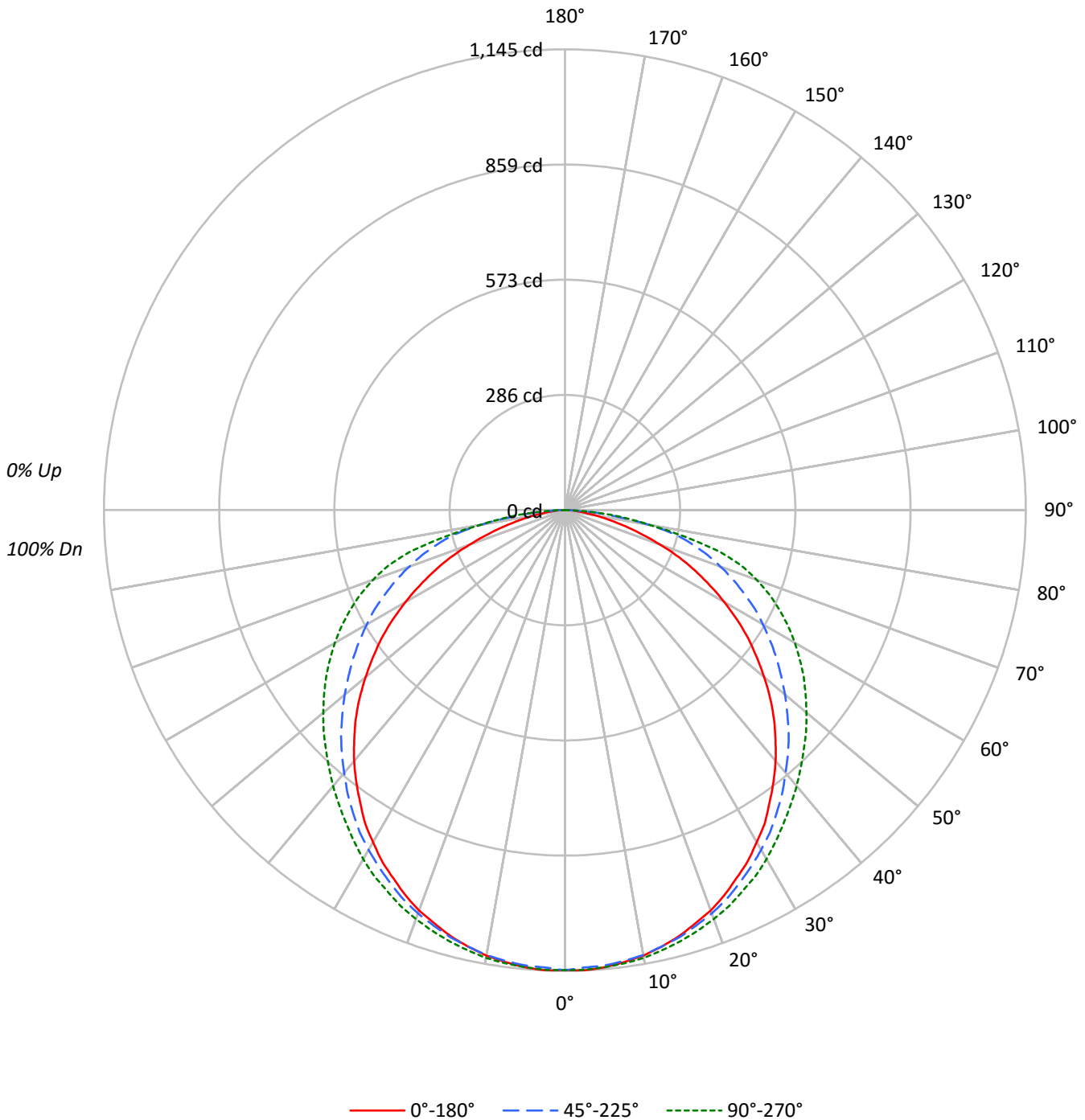
Input Watts (W): 44.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1538	1538	1538
5°	1540	1534	1540
10°	1536	1534	1544
15°	1527	1531	1545
20°	1517	1527	1548
25°	1498	1520	1551
30°	1481	1515	1556
35°	1456	1507	1558
40°	1430	1498	1573
45°	1398	1496	1597
50°	1353	1495	1640
55°	1305	1506	1699
60°	1231	1528	1775
65°	1137	1564	1874
70°	993	1619	1996
75°	805	1703	2063
80°	594	1669	1669
85°	455	1230	1389



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.3	3.1
10°-20°	311.0	8.8
20°-30°	473.5	13.4
30°-40°	575.0	16.3
40°-50°	607.4	17.2
50°-60°	573.2	16.3
60°-70°	476.6	13.5
70°-80°	313.5	8.9
80°-90°	85.5	2.4
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°	892.9	25.3
0°-40°	1467.8	41.7
0°-60°	2648.4	75.2
0°-90°	3524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3524.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1140	1140	1136	1140	1140	108
15°	1096	1098	1099	1109	1109	309
25°	1009	1015	1024	1042	1044	465
35°	887	897	918	941	949	555
45°	735	750	786	825	840	566
55°	556	580	642	702	724	495
65°	357	398	491	564	589	353
75°	155	226	328	388	397	167
85°	30	65	80	88	90	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1143.4	1143.4	1143.4	1143.4	1143.4
2.5°	1144.8	1143.4	1137.5	1143.4	1143.4
5°	1140.4	1140.4	1136.0	1140.4	1140.4
7.5°	1133.0	1133.0	1130.1	1136.0	1136.0
10°	1124.2	1124.2	1122.7	1130.1	1130.1
12.5°	1110.9	1112.4	1110.9	1119.8	1119.8
15°	1096.2	1097.6	1099.1	1109.4	1109.4
17.5°	1077.0	1079.9	1082.9	1094.7	1096.2
20°	1059.3	1060.7	1066.6	1079.9	1081.4
22.5°	1035.7	1040.1	1047.5	1060.7	1065.2
25°	1009.1	1015.0	1023.9	1041.6	1044.5
27.5°	984.0	988.5	1000.3	1019.4	1025.3
30°	953.0	960.4	975.2	994.4	1001.7
32.5°	923.5	930.9	948.6	969.3	975.2
35°	886.7	897.0	917.6	941.2	948.6
37.5°	851.3	861.6	886.7	913.2	922.1
40°	814.4	826.2	852.7	883.7	895.5
42.5°	774.5	790.8	820.3	854.2	867.5
45°	734.7	749.5	786.3	824.7	839.5
47.5°	691.9	709.6	749.5	795.2	812.9
50°	646.2	668.3	714.0	764.2	783.4
52.5°	600.5	625.5	677.2	733.2	753.9
55°	556.2	579.8	641.8	702.2	724.4
57.5°	507.5	537.0	604.9	669.8	691.9
60°	457.3	489.8	568.0	635.9	659.5
62.5°	407.2	444.1	532.6	600.5	625.5
65°	357.0	398.3	491.3	563.6	588.6
67.5°	308.3	354.1	452.9	525.2	550.3
70°	252.3	309.8	411.6	482.4	507.5
72.5°	200.6	267.0	371.8	438.2	460.3
75°	154.9	225.7	327.5	388.0	396.9
77.5°	113.6	184.4	281.8	302.4	303.9
80°	76.7	147.5	215.4	212.4	215.4
82.5°	50.2	110.6	135.7	152.0	153.4
85°	29.5	64.9	79.7	88.5	90.0
87.5°	14.8	22.1	28.0	29.5	32.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)