

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: P310924

Luminaire Tested: **24FCZ2-50-UNV-L82765-CP187-W2A-U-3500K**

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: P310924  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
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-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 3500K 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**

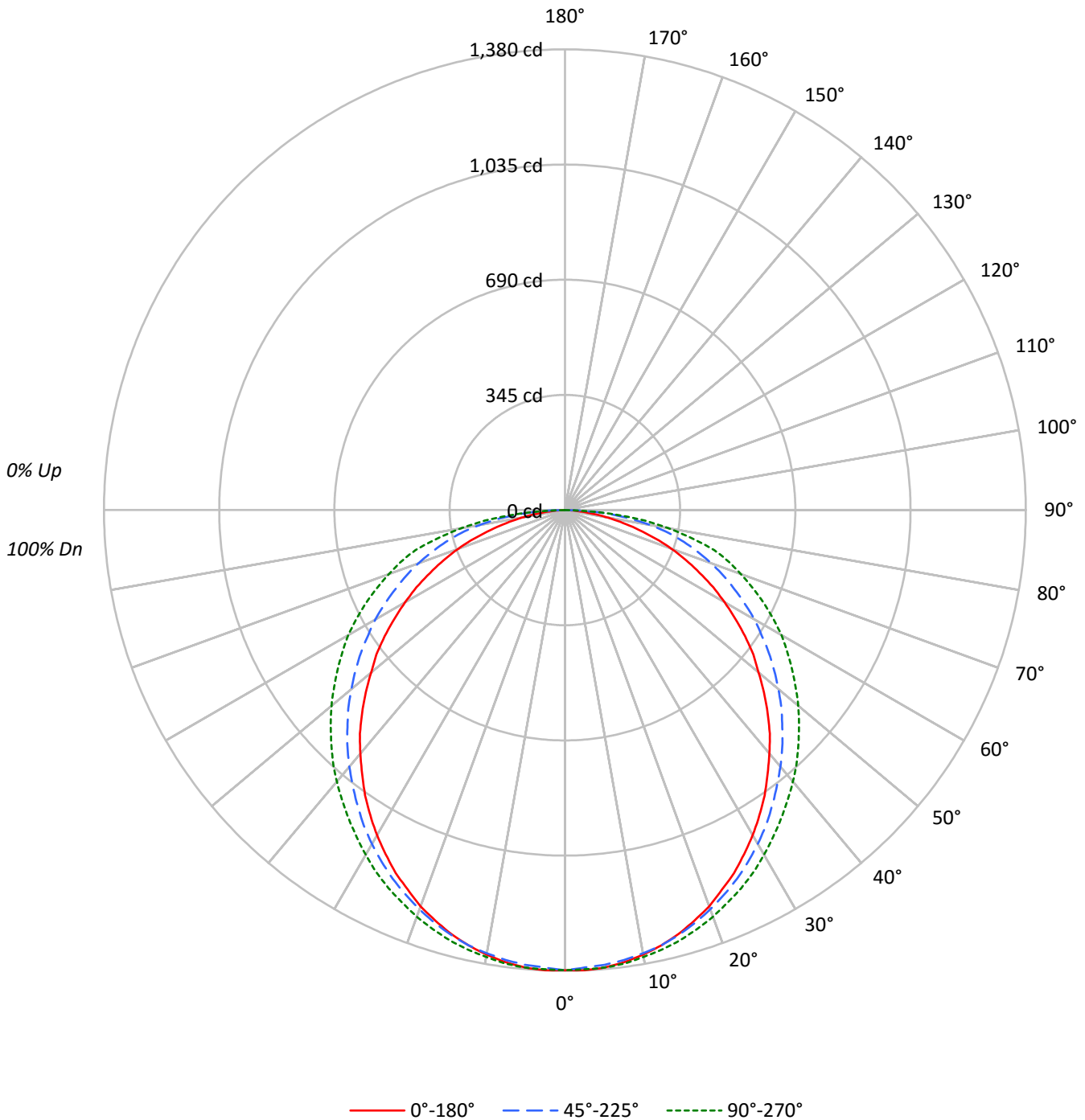
Lumens per Lamp: N/A  
Luminaire Lumens: 4179.0 lumens  
Efficiency: N/A  
Efficacy: 97.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 42.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1854	1854	1854
5°	1858	1846	1858
10°	1847	1841	1856
15°	1831	1835	1858
20°	1809	1822	1856
25°	1780	1809	1855
30°	1747	1794	1853
35°	1713	1776	1854
40°	1673	1763	1865
45°	1633	1752	1881
50°	1585	1747	1910
55°	1545	1750	1948
60°	1485	1765	2015
65°	1417	1784	2088
70°	1342	1838	2204
75°	1197	1917	2407
80°	1020	2031	2460
85°	727	2012	2354



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.4	3.1
10°-20°	372.9	8.9
20°-30°	563.3	13.5
30°-40°	678.9	16.2
40°-50°	712.7	17.1
50°-60°	666.8	16.0
60°-70°	550.7	13.2
70°-80°	375.2	9.0
80°-90°	128.0	3.1
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°	1066.7	25.5
0°-40°	1745.6	41.8
0°-60°	3125.1	74.8
0°-90°	4179.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4179.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1378	1378	1378	1378	1378	
5°	1375	1374	1367	1375	1375	131
15°	1314	1316	1317	1331	1334	371
25°	1199	1205	1219	1242	1249	552
35°	1043	1054	1082	1118	1129	652
45°	858	876	921	971	989	662
55°	659	685	746	807	830	588
65°	445	482	560	631	656	441
75°	230	283	369	438	463	245
85°	47	93	130	147	152	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1378.2	1378.2	1378.2	1378.2	1378.2
2.5°	1379.6	1378.2	1371.3	1378.2	1376.8
5°	1375.4	1374.0	1367.1	1375.4	1375.4
7.5°	1365.7	1365.7	1358.8	1368.5	1369.9
10°	1351.9	1351.9	1347.7	1358.8	1358.8
12.5°	1335.2	1335.2	1335.2	1346.3	1347.7
15°	1314.4	1315.8	1317.2	1331.1	1333.8
17.5°	1289.5	1292.2	1296.4	1313.0	1315.8
20°	1263.1	1265.9	1272.8	1292.2	1296.4
22.5°	1229.8	1236.8	1246.5	1268.7	1272.8
25°	1199.3	1204.9	1218.7	1242.3	1249.3
27.5°	1161.9	1170.2	1188.2	1213.2	1222.9
30°	1124.5	1132.8	1155.0	1184.1	1192.4
32.5°	1084.3	1096.7	1120.3	1150.8	1160.5
35°	1042.7	1053.8	1081.5	1117.5	1128.6
37.5°	996.9	1012.2	1042.7	1081.5	1095.3
40°	952.5	969.2	1003.8	1045.4	1062.1
42.5°	908.2	924.8	963.6	1010.8	1027.4
45°	858.3	876.3	920.6	970.6	988.6
47.5°	808.3	830.5	879.1	931.7	951.2
50°	757.0	782.0	834.7	890.1	912.3
52.5°	711.3	734.9	790.3	849.9	870.7
55°	658.6	684.9	745.9	807.0	830.5
57.5°	604.5	633.6	698.8	765.4	788.9
60°	551.8	583.7	655.8	722.4	748.7
62.5°	500.5	532.4	607.3	676.6	703.0
65°	445.1	482.5	560.2	630.9	655.8
67.5°	392.4	432.6	514.4	583.7	608.7
70°	341.1	379.9	467.3	535.2	560.2
72.5°	285.6	330.0	417.3	488.1	514.4
75°	230.2	282.8	368.8	438.1	463.1
77.5°	178.9	232.9	318.9	375.7	388.2
80°	131.7	187.2	262.1	302.3	317.5
82.5°	84.6	140.0	199.7	228.8	241.3
85°	47.1	92.9	130.3	147.0	152.5
87.5°	19.4	40.2	52.7	59.6	59.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)