

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: P310746

Luminaire Tested: **24FCZ2-40-UNV-L82765-CP187-W2A-U-4500K**

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: P310746  
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: 24FCZ2-40-UNV-L82765-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (168) 4500K 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**

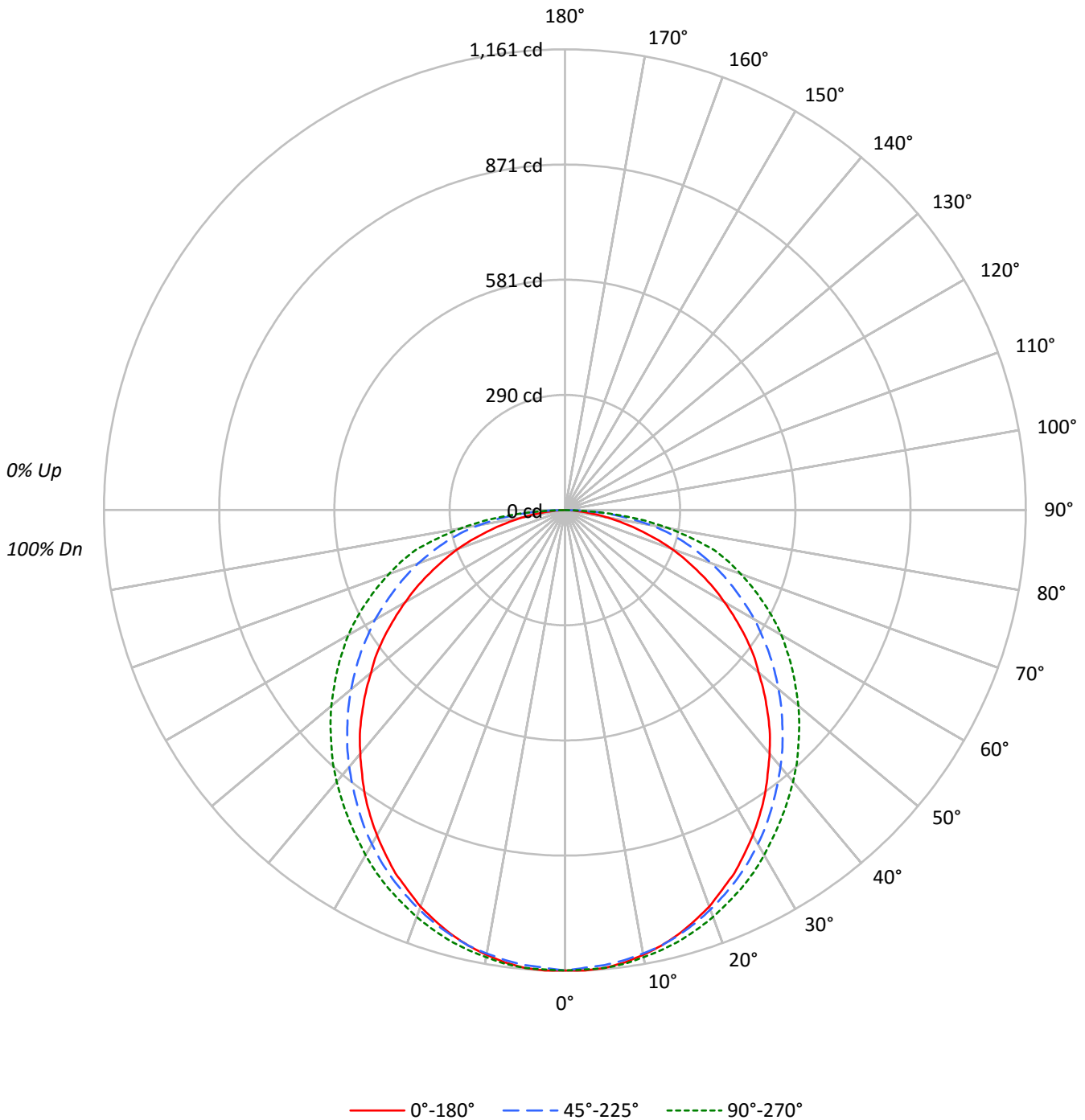
Lumens per Lamp: N/A  
Luminaire Lumens: 3518.0 lumens  
Efficiency: N/A  
Efficacy: 105.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1561	1561	1561
5°	1564	1554	1564
10°	1555	1550	1563
15°	1541	1545	1564
20°	1522	1534	1563
25°	1499	1523	1561
30°	1471	1511	1560
35°	1442	1495	1561
40°	1408	1484	1570
45°	1375	1475	1584
50°	1334	1471	1608
55°	1301	1473	1640
60°	1250	1486	1696
65°	1193	1501	1758
70°	1129	1547	1855
75°	1007	1614	2026
80°	859	1709	2071
85°	613	1694	1982



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.8	3.1
10°-20°	314.0	8.9
20°-30°	474.2	13.5
30°-40°	571.5	16.2
40°-50°	600.0	17.1
50°-60°	561.3	16.0
60°-70°	463.6	13.2
70°-80°	315.9	9.0
80°-90°	107.7	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°	898.0	25.5
0°-40°	1469.5	41.8
0°-60°	2630.8	74.8
0°-90°	3518.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3518.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1160	1160	1160	1160	1160	
5°	1158	1157	1151	1158	1158	110
15°	1106	1108	1109	1120	1123	312
25°	1010	1014	1026	1046	1052	465
35°	878	887	910	941	950	549
45°	722	738	775	817	832	557
55°	554	577	628	679	699	495
65°	375	406	472	531	552	372
75°	194	238	310	369	390	207
85°	40	78	110	124	128	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1160.2	1160.2	1160.2	1160.2	1160.2
2.5°	1161.4	1160.2	1154.4	1160.2	1159.0
5°	1157.9	1156.7	1150.9	1157.9	1157.9
7.5°	1149.7	1149.7	1143.9	1152.0	1153.2
10°	1138.0	1138.0	1134.5	1143.9	1143.9
12.5°	1124.0	1124.0	1124.0	1133.4	1134.5
15°	1106.5	1107.7	1108.8	1120.5	1122.9
17.5°	1085.5	1087.8	1091.3	1105.3	1107.7
20°	1063.3	1065.7	1071.5	1087.8	1091.3
22.5°	1035.3	1041.2	1049.3	1068.0	1071.5
25°	1009.6	1014.3	1026.0	1045.8	1051.7
27.5°	978.1	985.1	1000.3	1021.3	1029.5
30°	946.6	953.6	972.3	996.8	1003.8
32.5°	912.8	923.3	943.1	968.8	977.0
35°	877.7	887.1	910.4	940.8	950.1
37.5°	839.2	852.1	877.7	910.4	922.1
40°	801.9	815.9	845.1	880.1	894.1
42.5°	764.5	778.5	811.2	850.9	864.9
45°	722.5	737.7	775.0	817.0	832.2
47.5°	680.5	699.2	740.0	784.4	800.7
50°	637.3	658.3	702.7	749.3	768.0
52.5°	598.8	618.6	665.3	715.5	733.0
55°	554.4	576.6	628.0	679.3	699.2
57.5°	508.9	533.4	588.3	644.3	664.1
60°	464.5	491.4	552.1	608.1	630.3
62.5°	421.4	448.2	511.2	569.6	591.8
65°	374.7	406.2	471.6	531.1	552.1
67.5°	330.3	364.2	433.0	491.4	512.4
70°	287.1	319.8	393.3	450.5	471.6
72.5°	240.4	277.8	351.3	410.9	433.0
75°	193.8	238.1	310.5	368.8	389.8
77.5°	150.6	196.1	268.5	316.3	326.8
80°	110.9	157.6	220.6	254.5	267.3
82.5°	71.2	117.9	168.1	192.6	203.1
85°	39.7	78.2	109.7	123.7	128.4
87.5°	16.3	33.8	44.4	50.2	50.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)