

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: P313908

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-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: P313908  
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: 24FCZ2-40HE-UNV-L83050-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 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**

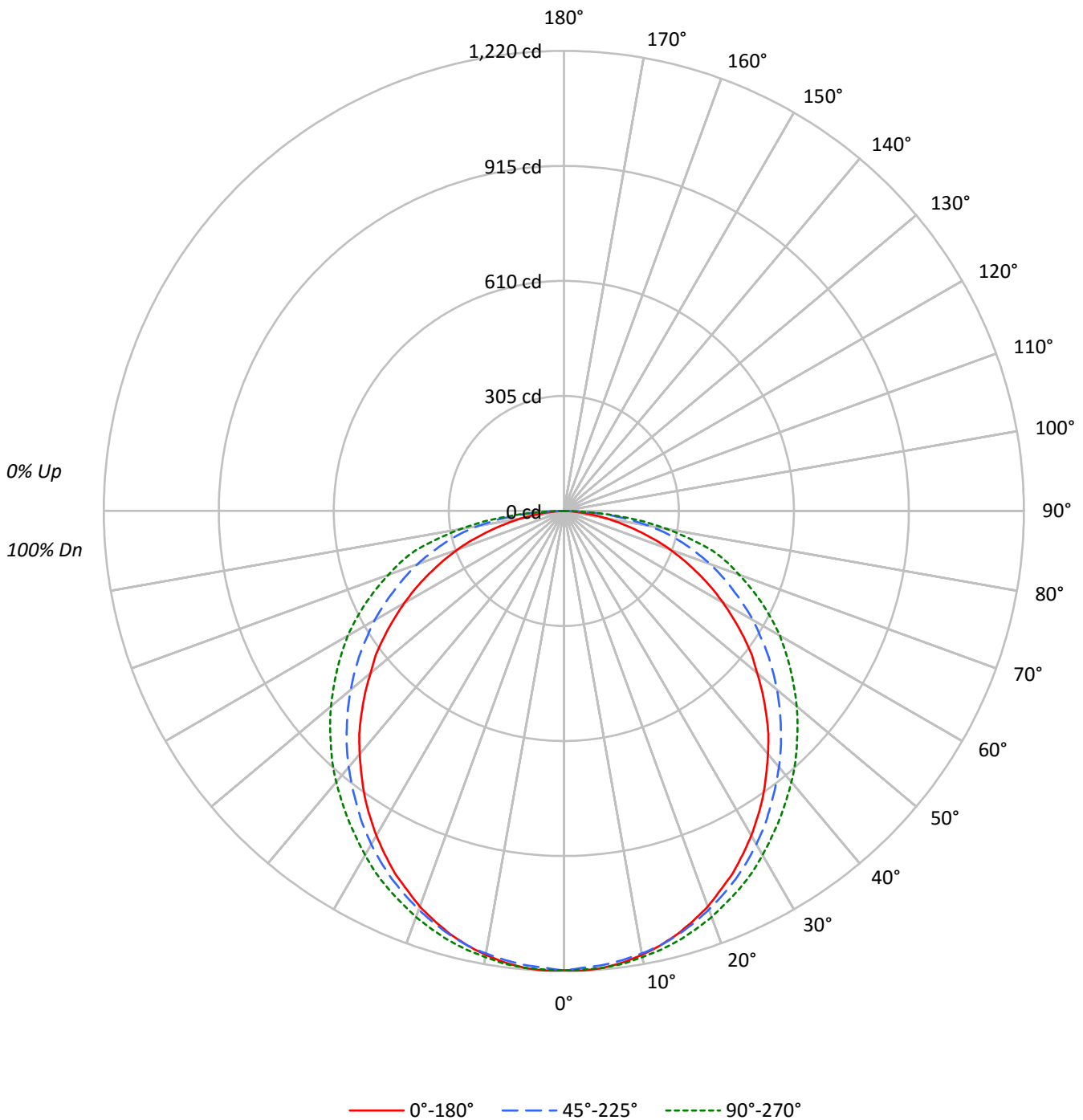
Lumens per Lamp: N/A  
Luminaire Lumens: 3694.0 lumens  
Efficiency: N/A  
Efficacy: 115.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1639	1639	1639
5°	1642	1632	1642
10°	1633	1628	1641
15°	1618	1622	1642
20°	1599	1611	1641
25°	1574	1599	1639
30°	1544	1586	1638
35°	1514	1570	1639
40°	1479	1558	1649
45°	1443	1549	1663
50°	1401	1544	1688
55°	1366	1547	1722
60°	1313	1560	1781
65°	1252	1576	1846
70°	1186	1625	1948
75°	1058	1695	2128
80°	902	1795	2175
85°	644	1778	2081



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.3	3.1
10°-20°	329.7	8.9
20°-30°	497.9	13.5
30°-40°	600.1	16.2
40°-50°	630.0	17.1
50°-60°	589.4	16.0
60°-70°	486.7	13.2
70°-80°	331.7	9.0
80°-90°	113.1	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°	942.9	25.5
0°-40°	1543.0	41.8
0°-60°	2762.4	74.8
0°-90°	3694.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3694.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1218	1218	1218	1218	1218	
5°	1216	1215	1208	1216	1216	115
15°	1162	1163	1164	1177	1179	328
25°	1060	1065	1077	1098	1104	488
35°	922	932	956	988	998	576
45°	759	775	814	858	874	585
55°	582	605	659	713	734	520
65°	393	426	495	558	580	390
75°	204	250	326	387	409	217
85°	42	82	115	130	135	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1218.2	1218.2	1218.2	1218.2	1218.2
2.5°	1219.5	1218.2	1212.1	1218.2	1217.0
5°	1215.8	1214.6	1208.4	1215.8	1215.8
7.5°	1207.2	1207.2	1201.1	1209.7	1210.9
10°	1195.0	1195.0	1191.3	1201.1	1201.1
12.5°	1180.3	1180.3	1180.3	1190.1	1191.3
15°	1161.9	1163.1	1164.3	1176.6	1179.0
17.5°	1139.8	1142.3	1145.9	1160.6	1163.1
20°	1116.5	1119.0	1125.1	1142.3	1145.9
22.5°	1087.1	1093.2	1101.8	1121.4	1125.1
25°	1060.1	1065.0	1077.3	1098.1	1104.3
27.5°	1027.1	1034.4	1050.3	1072.4	1081.0
30°	994.0	1001.3	1020.9	1046.7	1054.0
32.5°	958.4	969.5	990.3	1017.3	1025.8
35°	921.7	931.5	956.0	987.8	997.6
37.5°	881.2	894.7	921.7	956.0	968.2
40°	842.0	856.7	887.3	924.1	938.8
42.5°	802.8	817.5	851.8	893.5	908.2
45°	758.6	774.6	813.8	857.9	873.9
47.5°	714.5	734.1	777.0	823.6	840.8
50°	669.2	691.2	737.8	786.8	806.4
52.5°	628.7	649.6	698.6	751.3	769.7
55°	582.2	605.4	659.4	713.3	734.1
57.5°	534.4	560.1	617.7	676.5	697.4
60°	487.8	516.0	579.7	638.5	661.8
62.5°	442.4	470.6	536.8	598.1	621.4
65°	393.4	426.5	495.1	557.6	579.7
67.5°	346.8	382.4	454.7	516.0	538.0
70°	301.5	335.8	413.0	473.1	495.1
72.5°	252.5	291.7	368.9	431.4	454.7
75°	203.5	250.0	326.0	387.3	409.4
77.5°	158.1	205.9	281.9	332.1	343.2
80°	116.4	165.5	231.6	267.2	280.7
82.5°	74.8	123.8	176.5	202.2	213.3
85°	41.7	82.1	115.2	129.9	134.8
87.5°	17.2	35.5	46.6	52.7	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)