

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: P314281

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-S-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: P314281  
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: 24FCZ2-40HE-UNV-L83050-S-CP187-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 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: 3661.0 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

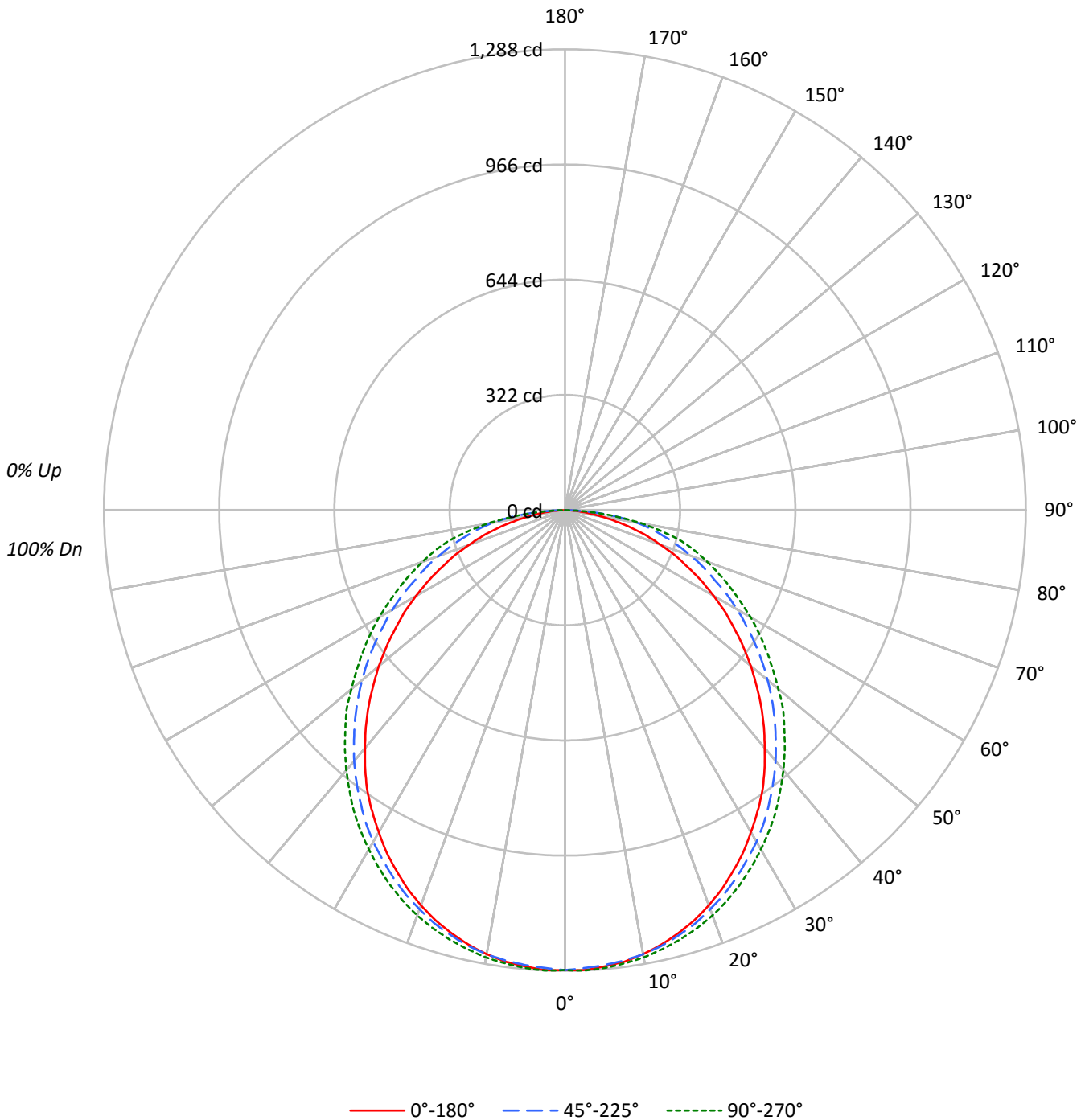
Input Watts (W): 30.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	1730	1730	1730
5°	1729	1724	1736
10°	1722	1722	1735
15°	1706	1714	1732
20°	1683	1700	1727
25°	1652	1683	1716
30°	1615	1664	1702
35°	1580	1637	1689
40°	1526	1609	1669
45°	1476	1578	1651
50°	1419	1548	1631
55°	1356	1519	1615
60°	1292	1496	1612
65°	1211	1470	1621
70°	1121	1478	1665
75°	1003	1506	1759
80°	811	1595	1721
85°	610	1400	1365



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.8	3.3
10°-20°	347.9	9.5
20°-30°	523.0	14.3
30°-40°	623.0	17.0
40°-50°	637.6	17.4
50°-60°	574.0	15.7
60°-70°	450.8	12.3
70°-80°	292.6	8.0
80°-90°	90.5	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°	992.7	27.1
0°-40°	1615.6	44.1
0°-60°	2827.2	77.2
0°-90°	3661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3661.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1286	1286	1286	1286	1286	
5°	1280	1283	1277	1284	1285	122
15°	1224	1228	1230	1241	1243	345
25°	1113	1122	1134	1152	1156	513
35°	962	973	997	1021	1028	600
45°	776	794	829	860	868	598
55°	578	604	648	681	688	518
65°	380	409	462	500	509	379
75°	193	230	290	329	338	204
85°	40	73	91	88	88	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1286.1	1286.1	1286.1	1286.1	1286.1
2.5°	1287.3	1287.3	1281.5	1287.3	1288.5
5°	1280.3	1282.6	1276.8	1283.8	1285.0
7.5°	1273.3	1273.3	1269.9	1276.8	1278.0
10°	1260.6	1261.7	1260.6	1268.7	1269.9
12.5°	1244.3	1246.6	1247.8	1255.9	1257.1
15°	1224.5	1228.0	1230.3	1240.8	1243.1
17.5°	1202.4	1205.9	1211.7	1223.3	1225.7
20°	1175.7	1180.3	1187.3	1202.4	1205.9
22.5°	1146.6	1151.2	1162.9	1176.8	1182.6
25°	1112.9	1122.2	1133.8	1152.4	1155.9
27.5°	1079.1	1087.3	1102.4	1122.2	1126.8
30°	1039.6	1052.4	1071.0	1090.8	1095.4
32.5°	1001.2	1014.0	1036.1	1057.0	1062.9
35°	961.7	973.3	996.6	1021.0	1028.0
37.5°	916.3	931.5	957.0	981.5	988.4
40°	868.7	887.3	916.3	941.9	950.1
42.5°	823.3	843.1	872.2	900.1	909.4
45°	775.6	794.2	829.1	860.5	867.5
47.5°	726.8	747.7	784.9	816.3	828.0
50°	678.0	700.0	739.6	772.1	779.1
52.5°	629.1	652.4	694.2	729.1	732.6
55°	577.9	603.5	647.7	681.4	688.4
57.5°	531.4	553.5	601.2	636.1	644.2
60°	480.3	504.7	555.9	588.4	598.9
62.5°	431.4	457.0	510.5	543.1	552.4
65°	380.3	409.3	461.7	500.0	509.3
67.5°	336.1	364.0	419.8	457.0	466.3
70°	284.9	316.3	375.6	414.0	423.3
72.5°	240.7	273.3	332.6	369.8	383.7
75°	193.0	230.2	289.6	329.1	338.4
77.5°	146.5	189.5	250.0	280.3	280.3
80°	104.7	150.0	205.8	219.8	222.1
82.5°	68.6	112.8	152.3	151.2	151.2
85°	39.5	73.3	90.7	88.4	88.4
87.5°	15.1	30.2	32.6	32.6	31.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)