

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: P310430

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP187-W2A-U-4000K**

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: P310430  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-70HE-UNV-L82765-RDP-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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**

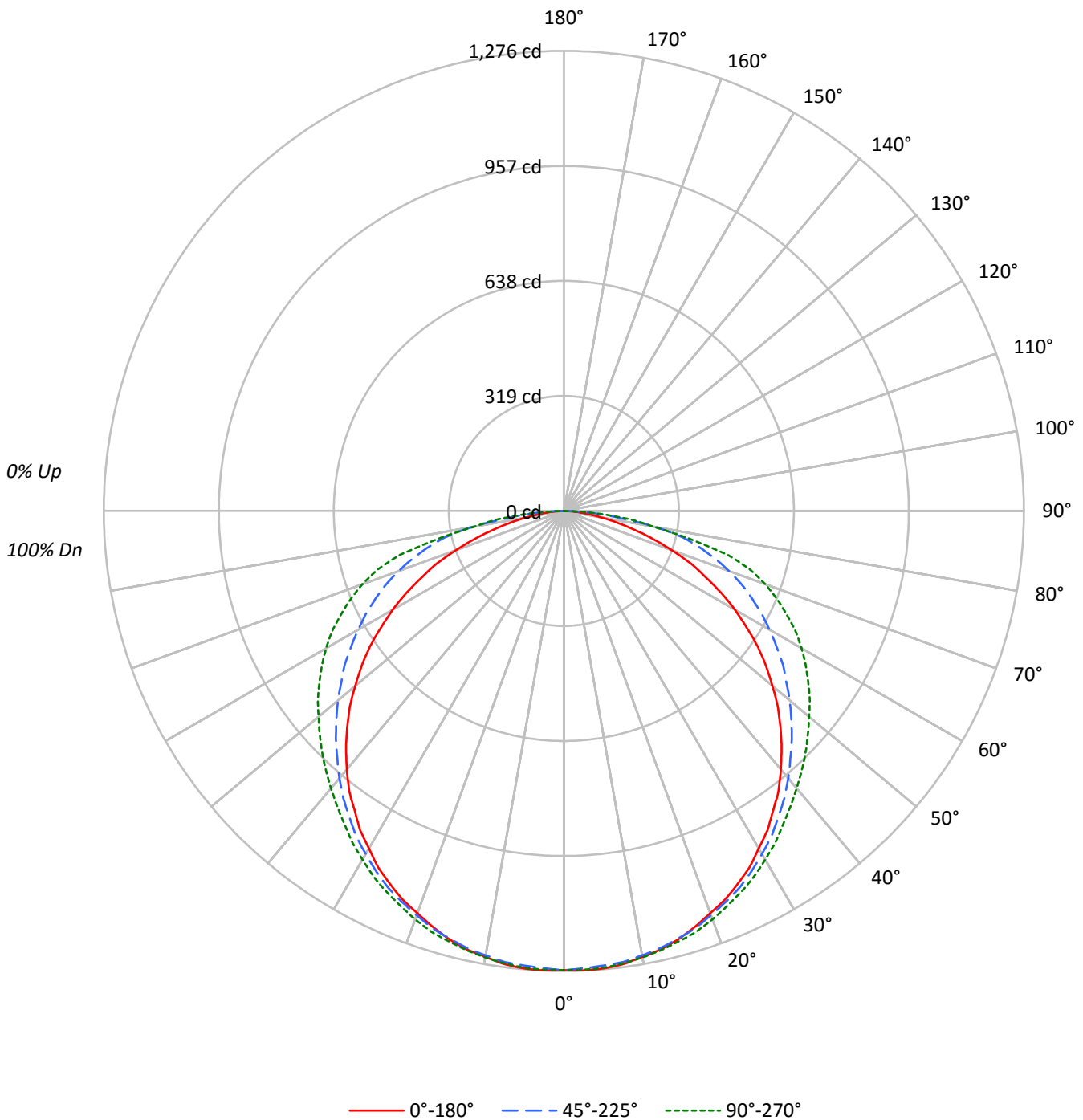
Lumens per Lamp: N/A  
Luminaire Lumens: 4050.0 lumens  
Efficiency: N/A  
Efficacy: 69.3 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 58.4  
Input Voltage (V): NR  
Input Current (A<sub>in</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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1714	1714	1714
5°	1720	1709	1717
10°	1715	1710	1718
15°	1712	1710	1721
20°	1700	1709	1726
25°	1694	1712	1730
30°	1679	1707	1735
35°	1663	1703	1742
40°	1644	1701	1764
45°	1617	1701	1804
50°	1581	1711	1859
55°	1541	1739	1941
60°	1476	1773	2049
65°	1381	1835	2174
70°	1257	1920	2339
75°	1065	2026	2444
80°	841	2039	1977
85°	621	1550	1737



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.8	3.0
10°-20°	347.7	8.6
20°-30°	531.7	13.1
30°-40°	650.0	16.0
40°-50°	692.8	17.1
50°-60°	662.4	16.4
60°-70°	561.1	13.9
70°-80°	377.1	9.3
80°-90°	106.4	2.6
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°	1000.2	24.7
0°-40°	1650.2	40.7
0°-60°	3005.4	74.2
0°-90°	4050.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4050.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1274	1274	1274	1274	1274	
5°	1274	1272	1266	1272	1272	121
15°	1229	1229	1227	1238	1235	347
25°	1141	1145	1153	1163	1165	526
35°	1012	1020	1037	1057	1061	634
45°	850	864	894	932	948	655
55°	657	681	741	800	828	585
65°	434	478	576	653	683	431
75°	205	279	390	456	470	219
85°	40	82	100	108	112	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1273.6	1273.6	1273.6	1273.6	1273.6
2.5°	1275.6	1275.6	1269.6	1273.6	1273.6
5°	1273.6	1271.6	1265.6	1271.6	1271.6
7.5°	1267.6	1265.6	1261.6	1267.6	1265.6
10°	1255.5	1255.5	1251.5	1257.5	1257.5
12.5°	1245.5	1243.5	1241.5	1249.5	1247.5
15°	1229.4	1229.4	1227.4	1237.5	1235.4
17.5°	1209.3	1211.3	1213.3	1221.4	1223.4
20°	1187.2	1191.2	1193.3	1205.3	1205.3
22.5°	1167.1	1169.1	1173.2	1185.2	1185.2
25°	1141.0	1145.0	1153.1	1163.1	1165.1
27.5°	1114.9	1116.9	1127.0	1141.0	1143.0
30°	1080.8	1086.8	1098.8	1114.9	1116.9
32.5°	1050.6	1056.7	1070.7	1086.8	1090.8
35°	1012.5	1020.5	1036.6	1056.7	1060.7
37.5°	978.3	984.3	1004.4	1026.5	1032.5
40°	936.1	948.2	968.3	994.4	1004.4
42.5°	893.9	906.0	930.1	964.2	976.3
45°	849.7	863.8	893.9	932.1	948.2
47.5°	805.5	821.6	855.8	900.0	918.0
50°	755.3	775.4	817.6	867.8	887.9
52.5°	707.1	731.2	777.4	833.7	859.8
55°	656.9	681.0	741.3	799.5	827.6
57.5°	600.6	632.8	699.1	765.4	795.5
60°	548.4	578.5	658.9	731.2	761.4
62.5°	492.2	532.3	618.7	695.1	725.2
65°	433.9	478.1	576.5	652.9	683.0
67.5°	381.7	429.9	534.4	610.7	640.8
70°	319.4	379.7	488.1	564.5	594.6
72.5°	261.2	327.4	439.9	514.3	542.4
75°	204.9	279.2	389.7	456.0	470.1
77.5°	152.7	231.0	337.5	365.6	355.6
80°	108.5	184.8	263.2	249.1	255.1
82.5°	70.3	140.6	162.7	184.8	190.8
85°	40.2	82.4	100.4	108.5	112.5
87.5°	18.1	30.1	40.2	40.2	38.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)