

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: P311080

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5000K**

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: P311080  
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: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 5000K 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

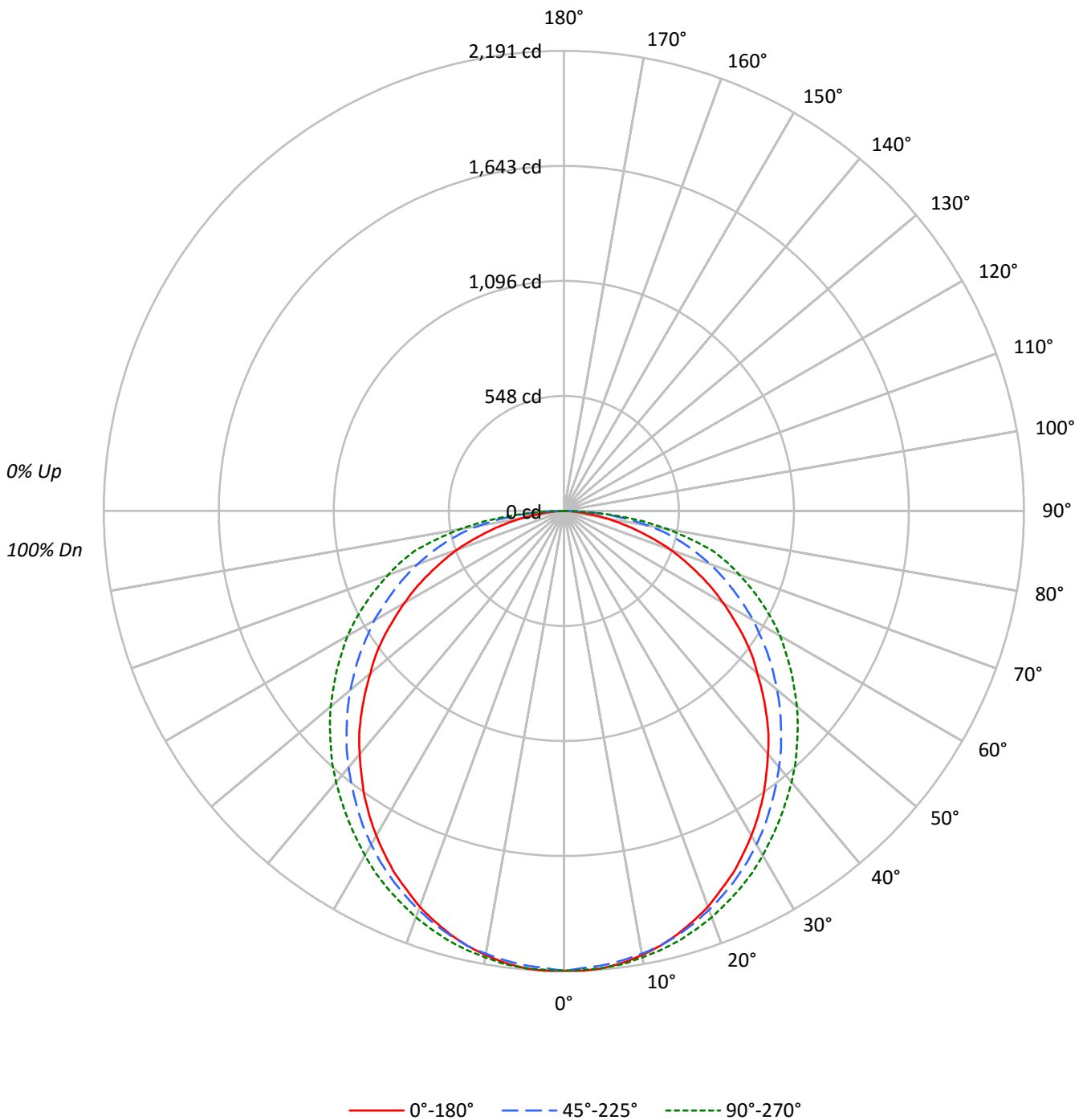
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6638.0 lumens  
Efficiency: N/A  
Efficacy: 112.3 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): 59.1  
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°	2946	2946	2946
5°	2951	2933	2951
10°	2934	2925	2949
15°	2908	2914	2951
20°	2873	2895	2948
25°	2828	2874	2946
30°	2775	2850	2943
35°	2720	2822	2945
40°	2657	2801	2963
45°	2594	2783	2988
50°	2517	2775	3033
55°	2454	2780	3095
60°	2359	2803	3200
65°	2251	2833	3316
70°	2131	2920	3500
75°	1901	3045	3824
80°	1621	3225	3908
85°	1156	3196	3741



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.2	3.1
10°-20°	592.4	8.9
20°-30°	894.8	13.5
30°-40°	1078.4	16.2
40°-50°	1132.1	17.1
50°-60°	1059.2	16.0
60°-70°	874.7	13.2
70°-80°	596.0	9.0
80°-90°	203.3	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°	1694.3	25.5
0°-40°	2772.7	41.8
0°-60°	4964.0	74.8
0°-90°	6638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6638.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2189	2189	2189	2189	2189	
5°	2185	2182	2172	2185	2185	207
15°	2088	2090	2092	2114	2119	589
25°	1905	1914	1936	1973	1984	877
35°	1656	1674	1718	1775	1793	1035
45°	1363	1392	1462	1542	1570	1051
55°	1046	1088	1185	1282	1319	934
65°	707	766	890	1002	1042	701
75°	366	449	586	696	736	390
85°	75	148	207	234	242	94
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2189.2	2189.2	2189.2	2189.2	2189.2
2.5°	2191.4	2189.2	2178.1	2189.2	2187.0
5°	2184.7	2182.5	2171.5	2184.7	2184.7
7.5°	2169.3	2169.3	2158.3	2173.7	2175.9
10°	2147.3	2147.3	2140.7	2158.3	2158.3
12.5°	2120.9	2120.9	2120.9	2138.5	2140.7
15°	2087.8	2090.0	2092.3	2114.3	2118.7
17.5°	2048.2	2052.6	2059.2	2085.6	2090.0
20°	2006.4	2010.8	2021.8	2052.6	2059.2
22.5°	1953.5	1964.5	1979.9	2015.2	2021.8
25°	1905.0	1913.9	1935.9	1973.3	1984.3
27.5°	1845.6	1858.8	1887.4	1927.1	1942.5
30°	1786.1	1799.3	1834.6	1880.8	1894.0
32.5°	1722.3	1742.1	1779.5	1828.0	1843.4
35°	1656.2	1673.8	1717.8	1775.1	1792.7
37.5°	1583.5	1607.7	1656.2	1717.8	1739.9
40°	1513.0	1539.5	1594.5	1660.6	1687.0
42.5°	1442.6	1469.0	1530.6	1605.5	1632.0
45°	1363.3	1391.9	1462.4	1541.7	1570.3
47.5°	1284.0	1319.2	1396.3	1480.0	1510.8
50°	1202.5	1242.1	1325.8	1413.9	1449.2
52.5°	1129.8	1167.3	1255.4	1350.1	1383.1
55°	1046.1	1088.0	1184.9	1281.8	1319.2
57.5°	960.2	1006.5	1110.0	1215.7	1253.1
60°	876.5	927.2	1041.7	1147.4	1189.3
62.5°	795.1	845.7	964.6	1074.8	1116.6
65°	707.0	766.4	889.8	1002.1	1041.7
67.5°	623.3	687.1	817.1	927.2	966.8
70°	541.8	603.4	742.2	850.1	889.8
72.5°	453.7	524.2	662.9	775.2	817.1
75°	365.6	449.3	585.8	695.9	735.6
77.5°	284.1	370.0	506.5	596.8	616.7
80°	209.2	297.3	416.2	480.1	504.3
82.5°	134.3	222.4	317.1	363.4	383.2
85°	74.9	147.6	207.0	233.5	242.3
87.5°	30.8	63.9	83.7	94.7	94.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)