

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: P310404

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA08-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: P310404  
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-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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**

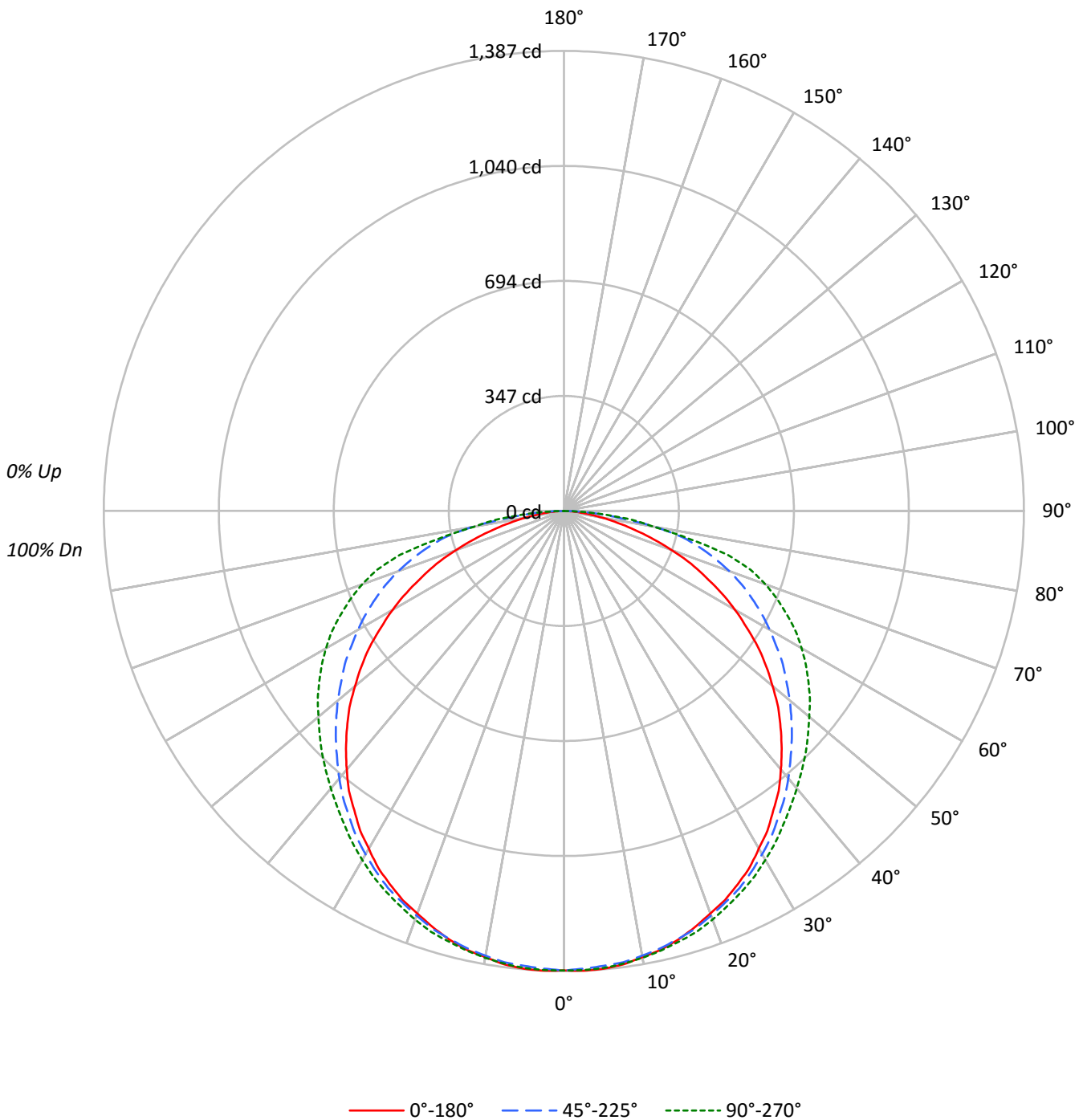
Lumens per Lamp: N/A  
Luminaire Lumens: 4405.0 lumens  
Efficiency: N/A  
Efficacy: 74.9 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 58.8  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1864	1864	1864
5°	1871	1859	1868
10°	1866	1860	1869
15°	1863	1860	1872
20°	1849	1858	1877
25°	1842	1862	1881
30°	1826	1857	1887
35°	1809	1852	1895
40°	1788	1850	1919
45°	1759	1850	1962
50°	1720	1861	2021
55°	1676	1891	2112
60°	1605	1929	2228
65°	1502	1996	2365
70°	1367	2089	2544
75°	1159	2204	2658
80°	914	2218	2150
85°	675	1686	1890



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.4	3.0
10°-20°	378.2	8.6
20°-30°	578.3	13.1
30°-40°	707.0	16.0
40°-50°	753.5	17.1
50°-60°	720.5	16.4
60°-70°	610.3	13.9
70°-80°	410.2	9.3
80°-90°	115.7	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°	1087.9	24.7
0°-40°	1794.9	40.7
0°-60°	3268.8	74.2
0°-90°	4405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4405.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1385	1385	1385	1385	1385	
5°	1385	1383	1376	1383	1383	132
15°	1337	1337	1335	1346	1344	377
25°	1241	1245	1254	1265	1267	572
35°	1101	1110	1127	1149	1154	690
45°	924	940	972	1014	1031	713
55°	714	741	806	870	900	636
65°	472	520	627	710	743	469
75°	223	304	424	496	511	239
85°	44	90	109	118	122	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1385.2	1385.2	1385.2	1385.2	1385.2
2.5°	1387.4	1387.4	1380.9	1385.2	1385.2
5°	1385.2	1383.1	1376.5	1383.1	1383.1
7.5°	1378.7	1376.5	1372.1	1378.7	1376.5
10°	1365.6	1365.6	1361.2	1367.8	1367.8
12.5°	1354.7	1352.5	1350.3	1359.0	1356.8
15°	1337.2	1337.2	1335.0	1345.9	1343.7
17.5°	1315.3	1317.5	1319.7	1328.4	1330.6
20°	1291.3	1295.7	1297.8	1311.0	1311.0
22.5°	1269.4	1271.6	1276.0	1289.1	1289.1
25°	1241.0	1245.4	1254.2	1265.1	1267.3
27.5°	1212.6	1214.8	1225.7	1241.0	1243.2
30°	1175.5	1182.0	1195.2	1212.6	1214.8
32.5°	1142.7	1149.3	1164.6	1182.0	1186.4
35°	1101.2	1109.9	1127.4	1149.3	1153.6
37.5°	1064.1	1070.6	1092.5	1116.5	1123.1
40°	1018.2	1031.3	1053.1	1081.5	1092.5
42.5°	972.3	985.4	1011.6	1048.8	1061.9
45°	924.2	939.5	972.3	1013.8	1031.3
47.5°	876.2	893.6	930.8	978.8	998.5
50°	821.5	843.4	889.3	943.9	965.7
52.5°	769.1	795.3	845.6	906.7	935.2
55°	714.5	740.7	806.2	869.6	900.2
57.5°	653.3	688.3	760.4	832.5	865.2
60°	596.5	629.3	716.7	795.3	828.1
62.5°	535.3	579.0	673.0	756.0	788.8
65°	471.9	520.0	627.1	710.1	742.9
67.5°	415.1	467.6	581.2	664.2	697.0
70°	347.4	413.0	530.9	614.0	646.7
72.5°	284.0	356.1	478.5	559.3	589.9
75°	222.9	303.7	423.9	496.0	511.3
77.5°	166.1	251.3	367.1	397.7	386.7
80°	118.0	201.0	286.2	270.9	277.5
82.5°	76.5	152.9	177.0	201.0	207.6
85°	43.7	89.6	109.2	118.0	122.4
87.5°	19.7	32.8	43.7	43.7	41.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)