

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: P310406

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA08-W2A-U-5500K**

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: P310406
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-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 5500K 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: 4509.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

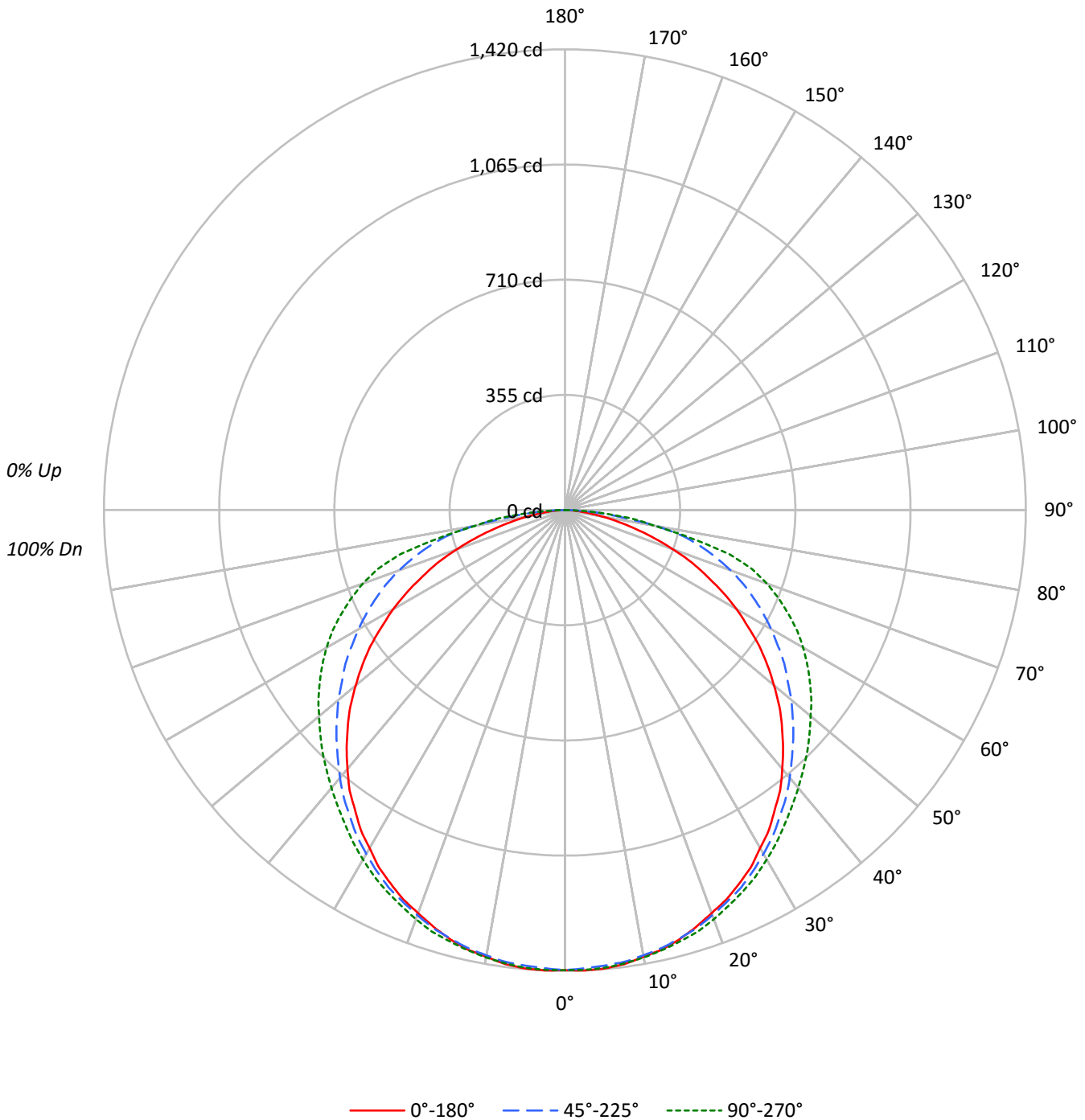
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1908	1908	1908
5°	1915	1903	1912
10°	1910	1904	1913
15°	1907	1903	1916
20°	1893	1902	1921
25°	1886	1906	1926
30°	1869	1901	1932
35°	1851	1895	1940
40°	1831	1893	1964
45°	1800	1894	2009
50°	1760	1905	2069
55°	1715	1936	2161
60°	1643	1974	2281
65°	1538	2044	2421
70°	1399	2138	2604
75°	1186	2256	2720
80°	936	2270	2201
85°	690	1726	1933



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.5	3.0
10°-20°	387.1	8.6
20°-30°	592.0	13.1
30°-40°	723.7	16.0
40°-50°	771.3	17.1
50°-60°	737.5	16.4
60°-70°	624.7	13.9
70°-80°	419.9	9.3
80°-90°	118.4	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°	1113.6	24.7
0°-40°	1837.3	40.7
0°-60°	3346.0	74.2
0°-90°	4509.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4509.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1418	1418	1418	1418	1418	
5°	1418	1416	1409	1416	1416	135
15°	1369	1369	1366	1378	1376	386
25°	1270	1275	1284	1295	1297	585
35°	1127	1136	1154	1176	1181	706
45°	946	962	995	1038	1056	730
55°	731	758	825	890	921	651
65°	483	532	642	727	760	480
75°	228	311	434	508	523	244
85°	45	92	112	121	125	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1418.0	1418.0	1418.0	1418.0	1418.0
2.5°	1420.2	1420.2	1413.5	1418.0	1418.0
5°	1418.0	1415.7	1409.0	1415.7	1415.7
7.5°	1411.2	1409.0	1404.5	1411.2	1409.0
10°	1397.8	1397.8	1393.4	1400.1	1400.1
12.5°	1386.6	1384.4	1382.2	1391.1	1388.9
15°	1368.7	1368.7	1366.5	1377.7	1375.5
17.5°	1346.4	1348.6	1350.9	1359.8	1362.0
20°	1321.8	1326.3	1328.5	1341.9	1341.9
22.5°	1299.4	1301.7	1306.1	1319.5	1319.5
25°	1270.3	1274.8	1283.8	1294.9	1297.2
27.5°	1241.3	1243.5	1254.7	1270.3	1272.6
30°	1203.2	1210.0	1223.4	1241.3	1243.5
32.5°	1169.7	1176.4	1192.1	1210.0	1214.4
35°	1127.2	1136.2	1154.0	1176.4	1180.9
37.5°	1089.2	1095.9	1118.3	1142.9	1149.6
40°	1042.2	1055.6	1078.0	1107.1	1118.3
42.5°	995.3	1008.7	1035.5	1073.5	1086.9
45°	946.0	961.7	995.3	1037.7	1055.6
47.5°	896.8	914.7	952.8	1002.0	1022.1
50°	840.9	863.3	910.3	966.2	988.5
52.5°	787.3	814.1	865.5	928.2	957.2
55°	731.3	758.2	825.3	890.1	921.4
57.5°	668.7	704.5	778.3	852.1	885.7
60°	610.6	644.1	733.6	814.1	847.6
62.5°	547.9	592.7	688.8	773.8	807.4
65°	483.1	532.3	641.9	726.9	760.4
67.5°	424.9	478.6	594.9	679.9	713.4
70°	355.6	422.7	543.5	628.5	662.0
72.5°	290.7	364.6	489.8	572.5	603.9
75°	228.1	310.9	433.9	507.7	523.3
77.5°	170.0	257.2	375.7	407.0	395.9
80°	120.8	205.8	293.0	277.3	284.0
82.5°	78.3	156.6	181.2	205.8	212.5
85°	44.7	91.7	111.8	120.8	125.2
87.5°	20.1	33.5	44.7	44.7	42.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)