

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: P310402

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA08-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: P310402
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 4235.0 lumens
Efficiency: N/A
Efficacy: 73.0 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

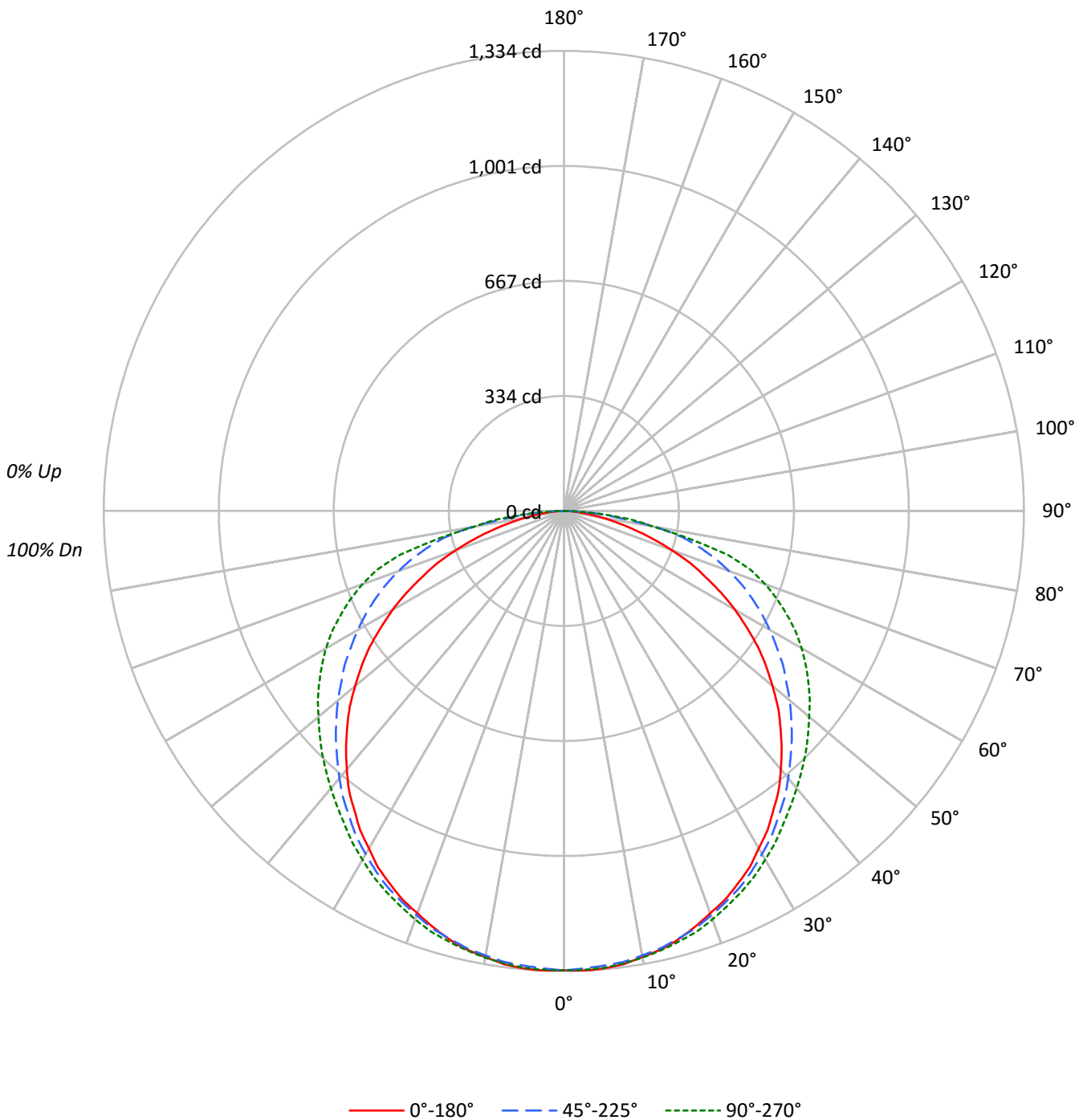
Input Watts (W): 58
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1792	1792	1792
5°	1799	1787	1796
10°	1794	1788	1797
15°	1791	1788	1800
20°	1778	1787	1805
25°	1771	1790	1809
30°	1756	1785	1814
35°	1739	1780	1822
40°	1719	1778	1845
45°	1691	1779	1887
50°	1653	1789	1944
55°	1611	1818	2030
60°	1543	1854	2142
65°	1444	1919	2274
70°	1314	2008	2446
75°	1114	2118	2555
80°	879	2132	2067
85°	648	1621	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	3.0
10°-20°	363.6	8.6
20°-30°	556.0	13.1
30°-40°	679.7	16.0
40°-50°	724.4	17.1
50°-60°	692.6	16.4
60°-70°	586.8	13.9
70°-80°	394.3	9.3
80°-90°	111.2	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°	1045.9	24.7
0°-40°	1725.6	40.7
0°-60°	3142.7	74.2
0°-90°	4235.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4235.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1332	1330	1323	1330	1330	127
15°	1286	1286	1284	1294	1292	362
25°	1193	1197	1206	1216	1218	550
35°	1059	1067	1084	1105	1109	663
45°	889	903	935	975	992	685
55°	687	712	775	836	866	612
65°	454	500	603	683	714	450
75°	214	292	408	477	492	229
85°	42	86	105	113	118	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1331.8	1331.8	1331.8	1331.8	1331.8
2.5°	1333.9	1333.9	1327.6	1331.8	1331.8
5°	1331.8	1329.7	1323.4	1329.7	1329.7
7.5°	1325.5	1323.4	1319.2	1325.5	1323.4
10°	1312.9	1312.9	1308.7	1315.0	1315.0
12.5°	1302.4	1300.3	1298.2	1306.6	1304.5
15°	1285.6	1285.6	1283.5	1294.0	1291.9
17.5°	1264.6	1266.7	1268.8	1277.2	1279.3
20°	1241.5	1245.7	1247.8	1260.4	1260.4
22.5°	1220.5	1222.6	1226.8	1239.4	1239.4
25°	1193.1	1197.3	1205.7	1216.3	1218.4
27.5°	1165.8	1167.9	1178.4	1193.1	1195.2
30°	1130.1	1136.4	1149.0	1165.8	1167.9
32.5°	1098.6	1104.9	1119.6	1136.4	1140.6
35°	1058.7	1067.1	1083.9	1104.9	1109.1
37.5°	1023.0	1029.3	1050.3	1073.4	1079.7
40°	978.9	991.5	1012.5	1039.8	1050.3
42.5°	934.8	947.4	972.6	1008.3	1020.9
45°	888.6	903.3	934.8	974.7	991.5
47.5°	842.3	859.1	894.9	941.1	960.0
50°	789.8	810.8	854.9	907.5	928.5
52.5°	739.4	764.6	812.9	871.8	899.1
55°	686.9	712.1	775.1	836.0	865.5
57.5°	628.1	661.7	731.0	800.3	831.8
60°	573.5	605.0	689.0	764.6	796.1
62.5°	514.6	556.7	647.0	726.8	758.3
65°	453.7	499.9	602.9	682.7	714.2
67.5°	399.1	449.5	558.8	638.6	670.1
70°	334.0	397.0	510.4	590.3	621.8
72.5°	273.1	342.4	460.0	537.8	567.2
75°	214.3	292.0	407.5	476.8	491.5
77.5°	159.6	241.6	352.9	382.3	371.8
80°	113.4	193.3	275.2	260.5	266.8
82.5°	73.5	147.0	170.1	193.3	199.6
85°	42.0	86.1	105.0	113.4	117.6
87.5°	18.9	31.5	42.0	42.0	39.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)