

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: P310401

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA08-W2A-U-3000K**

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: P310401
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-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 4093.0 lumens
Efficiency: N/A
Efficacy: 71.4 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

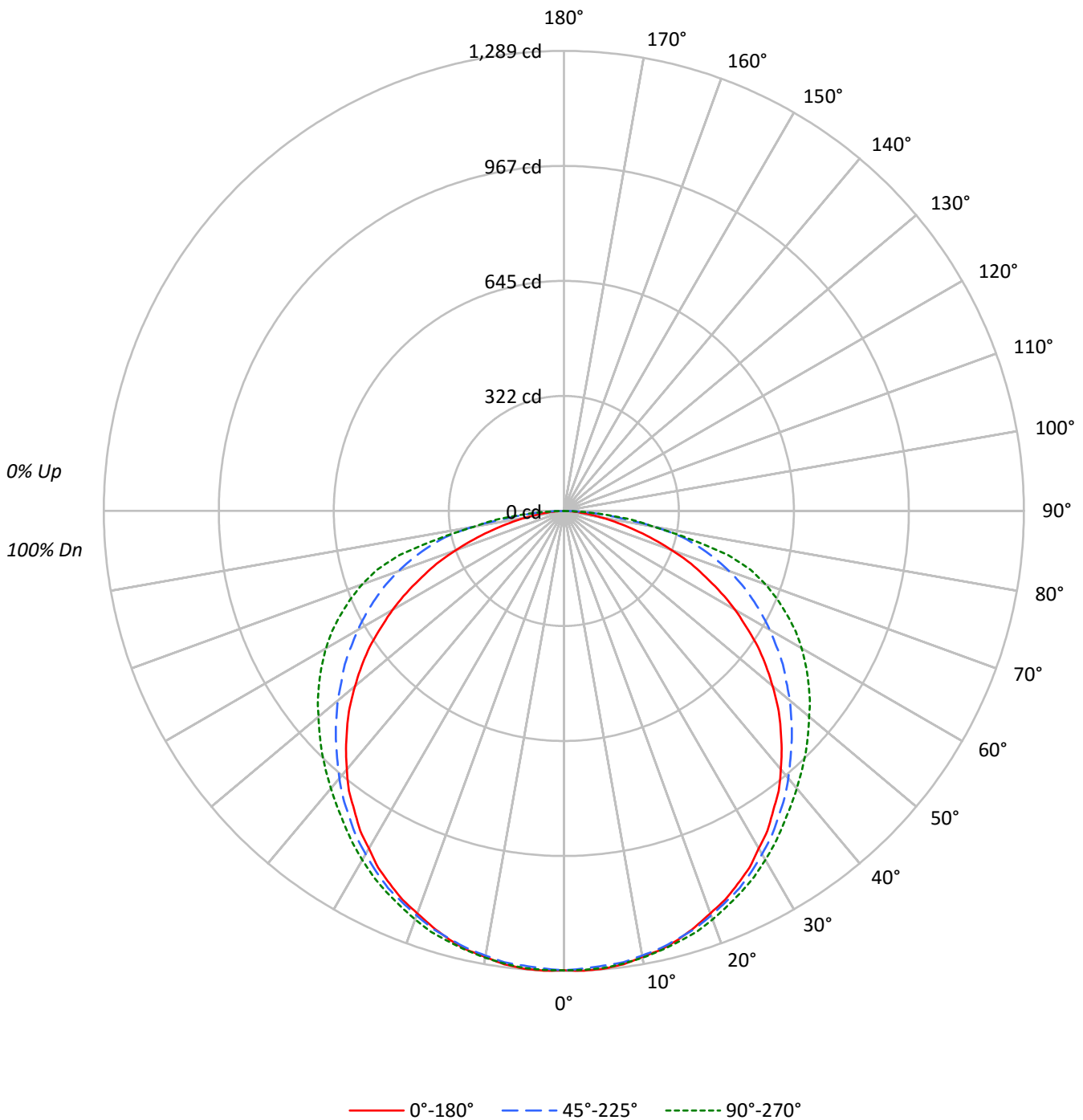
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1732	1732	1732
5°	1738	1727	1736
10°	1734	1728	1736
15°	1731	1728	1739
20°	1718	1727	1744
25°	1712	1730	1748
30°	1697	1725	1754
35°	1681	1721	1761
40°	1662	1719	1783
45°	1634	1719	1823
50°	1598	1730	1878
55°	1557	1757	1962
60°	1491	1792	2070
65°	1396	1855	2198
70°	1270	1941	2364
75°	1077	2048	2470
80°	849	2061	1998
85°	627	1567	1755



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.1	3.0
10°-20°	351.4	8.6
20°-30°	537.3	13.1
30°-40°	656.9	16.0
40°-50°	700.1	17.1
50°-60°	669.4	16.4
60°-70°	567.1	13.9
70°-80°	381.1	9.3
80°-90°	107.5	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°	1010.8	24.7
0°-40°	1667.7	40.7
0°-60°	3037.3	74.2
0°-90°	4093.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4093.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1287	1285	1279	1285	1285	122
15°	1242	1242	1240	1251	1249	350
25°	1153	1157	1165	1176	1178	531
35°	1023	1031	1048	1068	1072	641
45°	859	873	903	942	958	662
55°	664	688	749	808	836	591
65°	438	483	583	660	690	435
75°	207	282	394	461	475	222
85°	41	83	102	110	114	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1287.1	1287.1	1287.1	1287.1	1287.1
2.5°	1289.2	1289.2	1283.1	1287.1	1287.1
5°	1287.1	1285.1	1279.0	1285.1	1285.1
7.5°	1281.0	1279.0	1275.0	1281.0	1279.0
10°	1268.9	1268.9	1264.8	1270.9	1270.9
12.5°	1258.7	1256.7	1254.6	1262.8	1260.7
15°	1242.5	1242.5	1240.4	1250.6	1248.6
17.5°	1222.2	1224.2	1226.2	1234.3	1236.4
20°	1199.8	1203.9	1205.9	1218.1	1218.1
22.5°	1179.5	1181.6	1185.6	1197.8	1197.8
25°	1153.1	1157.2	1165.3	1175.5	1177.5
27.5°	1126.7	1128.8	1138.9	1153.1	1155.2
30°	1092.2	1098.3	1110.5	1126.7	1128.8
32.5°	1061.8	1067.9	1082.1	1098.3	1102.4
35°	1023.2	1031.3	1047.6	1067.9	1071.9
37.5°	988.7	994.8	1015.1	1037.4	1043.5
40°	946.1	958.2	978.5	1004.9	1015.1
42.5°	903.4	915.6	940.0	974.5	986.7
45°	858.8	873.0	903.4	942.0	958.2
47.5°	814.1	830.3	864.9	909.5	927.8
50°	763.3	783.6	826.3	877.0	897.3
52.5°	714.6	739.0	785.7	842.5	868.9
55°	663.9	688.2	749.1	808.0	836.4
57.5°	607.0	639.5	706.5	773.5	803.9
60°	554.2	584.7	665.9	739.0	769.4
62.5°	497.4	538.0	625.3	702.4	732.9
65°	438.5	483.2	582.7	659.8	690.3
67.5°	385.7	434.5	540.0	617.2	647.6
70°	322.8	383.7	493.3	570.5	600.9
72.5°	263.9	330.9	444.6	519.7	548.1
75°	207.1	282.2	393.9	460.8	475.1
77.5°	154.3	233.5	341.1	369.5	359.3
80°	109.6	186.8	266.0	251.7	257.8
82.5°	71.1	142.1	164.4	186.8	192.9
85°	40.6	83.2	101.5	109.6	113.7
87.5°	18.3	30.5	40.6	40.6	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)