

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: P310403

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA08-W2A-U-4000K**

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: P310403
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 4328.0 lumens
Efficiency: N/A
Efficacy: 74.1 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

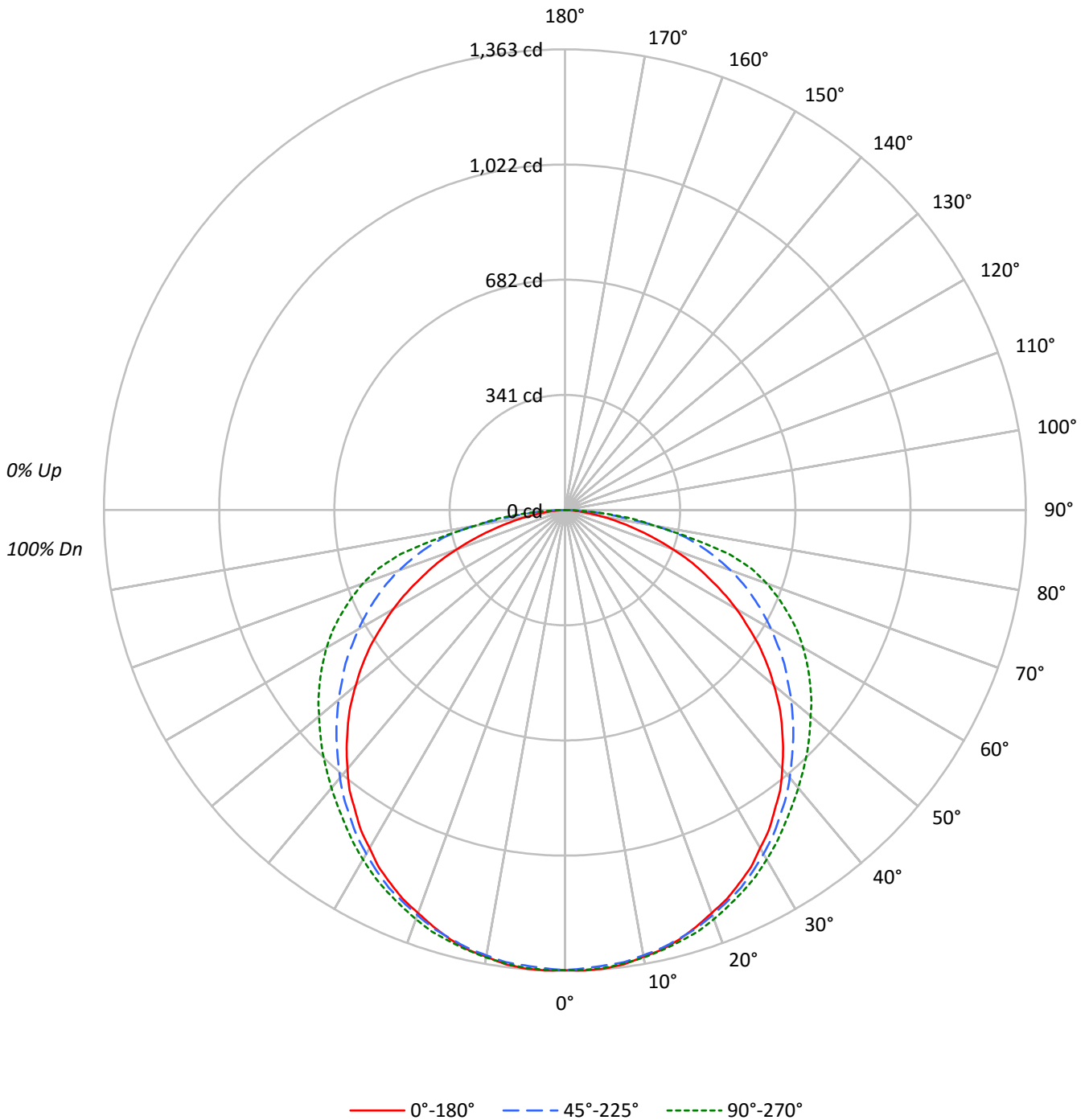
Input Watts (W): 58.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1831	1831	1831
5°	1838	1827	1835
10°	1833	1827	1836
15°	1830	1827	1839
20°	1817	1826	1844
25°	1810	1829	1848
30°	1794	1824	1854
35°	1777	1819	1862
40°	1757	1817	1885
45°	1728	1818	1928
50°	1690	1829	1986
55°	1647	1858	2075
60°	1577	1895	2189
65°	1476	1961	2324
70°	1343	2052	2500
75°	1138	2165	2611
80°	898	2179	2112
85°	662	1656	1856



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.1	3.0
10°-20°	371.6	8.6
20°-30°	568.2	13.1
30°-40°	694.6	16.0
40°-50°	740.3	17.1
50°-60°	707.8	16.4
60°-70°	599.6	13.9
70°-80°	403.0	9.3
80°-90°	113.7	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°	1068.9	24.7
0°-40°	1763.5	40.7
0°-60°	3211.7	74.2
0°-90°	4328.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4328.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1361	1361	1361	1361	1361	
5°	1361	1359	1352	1359	1359	129
15°	1314	1314	1312	1322	1320	370
25°	1219	1224	1232	1243	1245	562
35°	1082	1090	1108	1129	1134	678
45°	908	923	955	996	1013	700
55°	702	728	792	854	884	625
65°	464	511	616	698	730	460
75°	219	298	416	487	502	234
85°	43	88	107	116	120	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1361.0	1361.0	1361.0	1361.0	1361.0
2.5°	1363.2	1363.2	1356.7	1361.0	1361.0
5°	1361.0	1358.9	1352.4	1358.9	1358.9
7.5°	1354.6	1352.4	1348.2	1354.6	1352.4
10°	1341.7	1341.7	1337.4	1343.9	1343.9
12.5°	1331.0	1328.8	1326.7	1335.3	1333.1
15°	1313.8	1313.8	1311.7	1322.4	1320.2
17.5°	1292.3	1294.5	1296.6	1305.2	1307.4
20°	1268.7	1273.0	1275.2	1288.0	1288.0
22.5°	1247.3	1249.4	1253.7	1266.6	1266.6
25°	1219.3	1223.6	1232.2	1243.0	1245.1
27.5°	1191.4	1193.6	1204.3	1219.3	1221.5
30°	1154.9	1161.4	1174.3	1191.4	1193.6
32.5°	1122.7	1129.2	1144.2	1161.4	1165.7
35°	1082.0	1090.5	1107.7	1129.2	1133.5
37.5°	1045.5	1051.9	1073.4	1097.0	1103.4
40°	1000.4	1013.3	1034.7	1062.6	1073.4
42.5°	955.3	968.2	993.9	1030.4	1043.3
45°	908.1	923.1	955.3	996.1	1013.3
47.5°	860.8	878.0	914.5	961.7	981.1
50°	807.2	828.6	873.7	927.4	948.9
52.5°	755.7	781.4	830.8	890.9	918.8
55°	702.0	727.7	792.1	854.4	884.5
57.5°	641.9	676.2	747.1	817.9	850.1
60°	586.1	618.3	704.1	781.4	813.6
62.5°	526.0	568.9	661.2	742.8	775.0
65°	463.7	510.9	616.1	697.7	729.9
67.5°	407.9	459.4	571.0	652.6	684.8
70°	341.3	405.7	521.7	603.2	635.4
72.5°	279.1	349.9	470.1	549.6	579.6
75°	219.0	298.4	416.5	487.3	502.3
77.5°	163.2	246.9	360.7	390.7	380.0
80°	115.9	197.5	281.2	266.2	272.6
82.5°	75.1	150.3	173.9	197.5	203.9
85°	42.9	88.0	107.3	115.9	120.2
87.5°	19.3	32.2	42.9	42.9	40.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)