

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: P310443

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP250-W2A-U-5700K**

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: P310443
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-CP250-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 5700K 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: 4195.0 lumens
Efficiency: N/A
Efficacy: 70.7 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

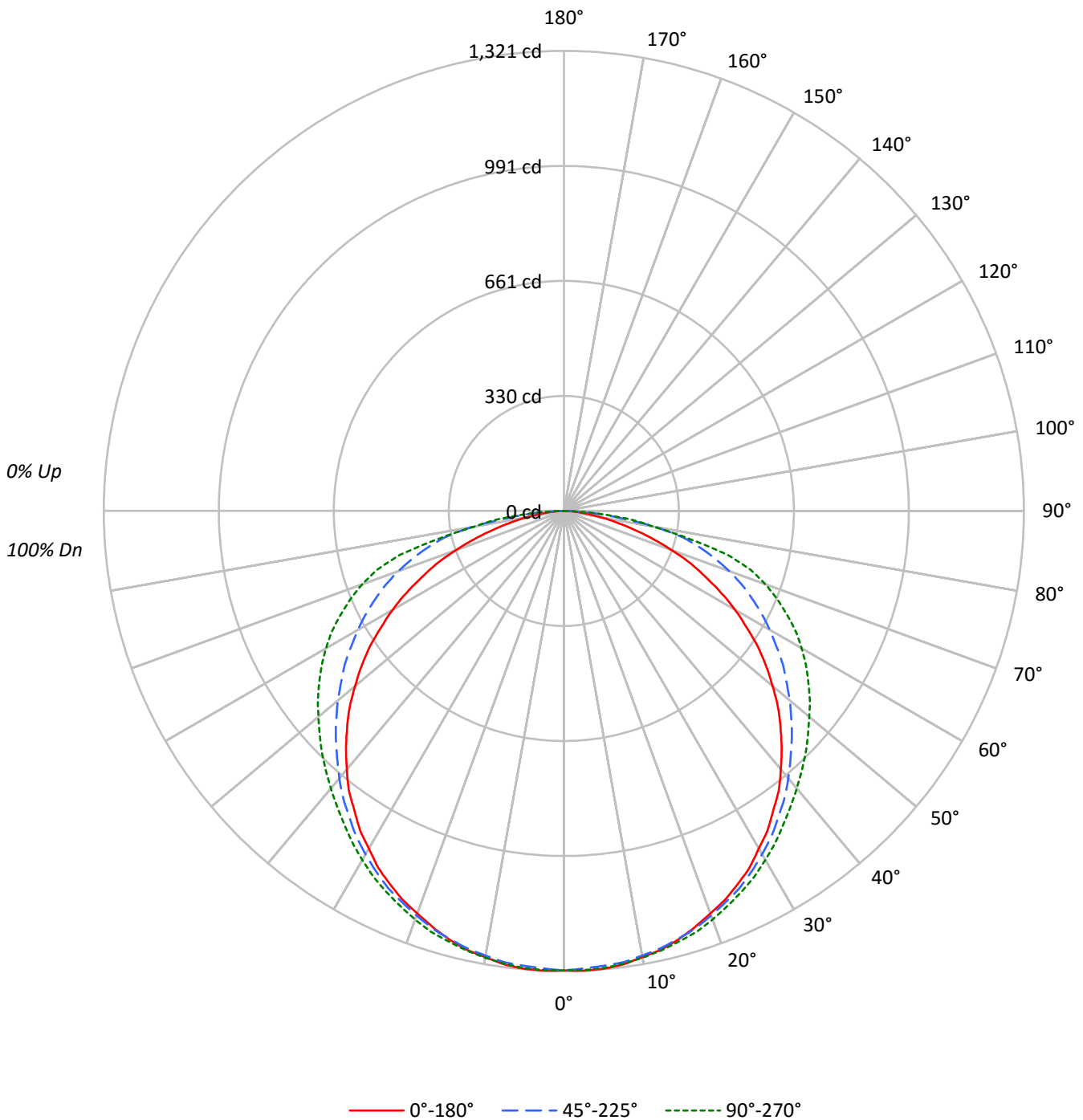
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1775	1775	1775
5°	1782	1771	1779
10°	1777	1771	1780
15°	1774	1771	1783
20°	1761	1770	1788
25°	1755	1773	1792
30°	1739	1768	1797
35°	1723	1764	1804
40°	1703	1762	1827
45°	1675	1762	1869
50°	1638	1773	1925
55°	1596	1801	2011
60°	1529	1837	2122
65°	1431	1901	2252
70°	1301	1989	2423
75°	1103	2099	2531
80°	871	2112	2048
85°	642	1606	1798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.1	3.0
10°-20°	360.2	8.6
20°-30°	550.7	13.1
30°-40°	673.3	16.0
40°-50°	717.6	17.1
50°-60°	686.1	16.4
60°-70°	581.2	13.9
70°-80°	390.6	9.3
80°-90°	110.2	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°	1036.0	24.7
0°-40°	1709.3	40.7
0°-60°	3113.0	74.2
0°-90°	4195.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4195.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1319	1319	1319	1319	1319	
5°	1319	1317	1311	1317	1317	125
15°	1273	1273	1271	1282	1280	359
25°	1182	1186	1194	1205	1207	545
35°	1049	1057	1074	1094	1099	657
45°	880	895	926	966	982	679
55°	680	705	768	828	857	606
65°	449	495	597	676	708	446
75°	212	289	404	472	487	227
85°	42	85	104	112	116	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1319.2	1319.2	1319.2	1319.2	1319.2
2.5°	1321.3	1321.3	1315.0	1319.2	1319.2
5°	1319.2	1317.1	1310.9	1317.1	1317.1
7.5°	1313.0	1310.9	1306.7	1313.0	1310.9
10°	1300.5	1300.5	1296.3	1302.6	1302.6
12.5°	1290.1	1288.0	1285.9	1294.2	1292.2
15°	1273.4	1273.4	1271.4	1281.8	1279.7
17.5°	1252.6	1254.7	1256.8	1265.1	1267.2
20°	1229.7	1233.9	1236.0	1248.5	1248.5
22.5°	1208.9	1211.0	1215.2	1227.7	1227.7
25°	1181.9	1186.0	1194.4	1204.8	1206.8
27.5°	1154.8	1156.9	1167.3	1181.9	1184.0
30°	1119.5	1125.7	1138.2	1154.8	1156.9
32.5°	1088.2	1094.5	1109.1	1125.7	1129.9
35°	1048.7	1057.0	1073.7	1094.5	1098.6
37.5°	1013.3	1019.6	1040.4	1063.3	1069.5
40°	969.6	982.1	1002.9	1030.0	1040.4
42.5°	925.9	938.4	963.4	998.8	1011.3
45°	880.2	894.7	925.9	965.5	982.1
47.5°	834.4	851.0	886.4	932.2	950.9
50°	782.4	803.2	846.9	898.9	919.7
52.5°	732.4	757.4	805.3	863.5	890.6
55°	680.4	705.4	767.8	828.1	857.3
57.5°	622.2	655.4	724.1	792.8	824.0
60°	568.1	599.3	682.5	757.4	788.6
62.5°	509.8	551.4	640.9	719.9	751.2
65°	449.4	495.2	597.2	676.3	707.5
67.5°	395.3	445.3	553.5	632.6	663.8
70°	330.8	393.3	505.6	584.7	615.9
72.5°	270.5	339.2	455.7	532.7	561.8
75°	212.2	289.2	403.7	472.3	486.9
77.5°	158.1	239.3	349.6	378.7	368.3
80°	112.4	191.4	272.6	258.0	264.3
82.5°	72.8	145.7	168.5	191.4	197.7
85°	41.6	85.3	104.0	112.4	116.5
87.5°	18.7	31.2	41.6	41.6	39.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)