

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: P313762

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CP250-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: P313762
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-L83050-RDP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB 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: 4225.0 lumens
Efficiency: N/A
Efficacy: 71.6 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

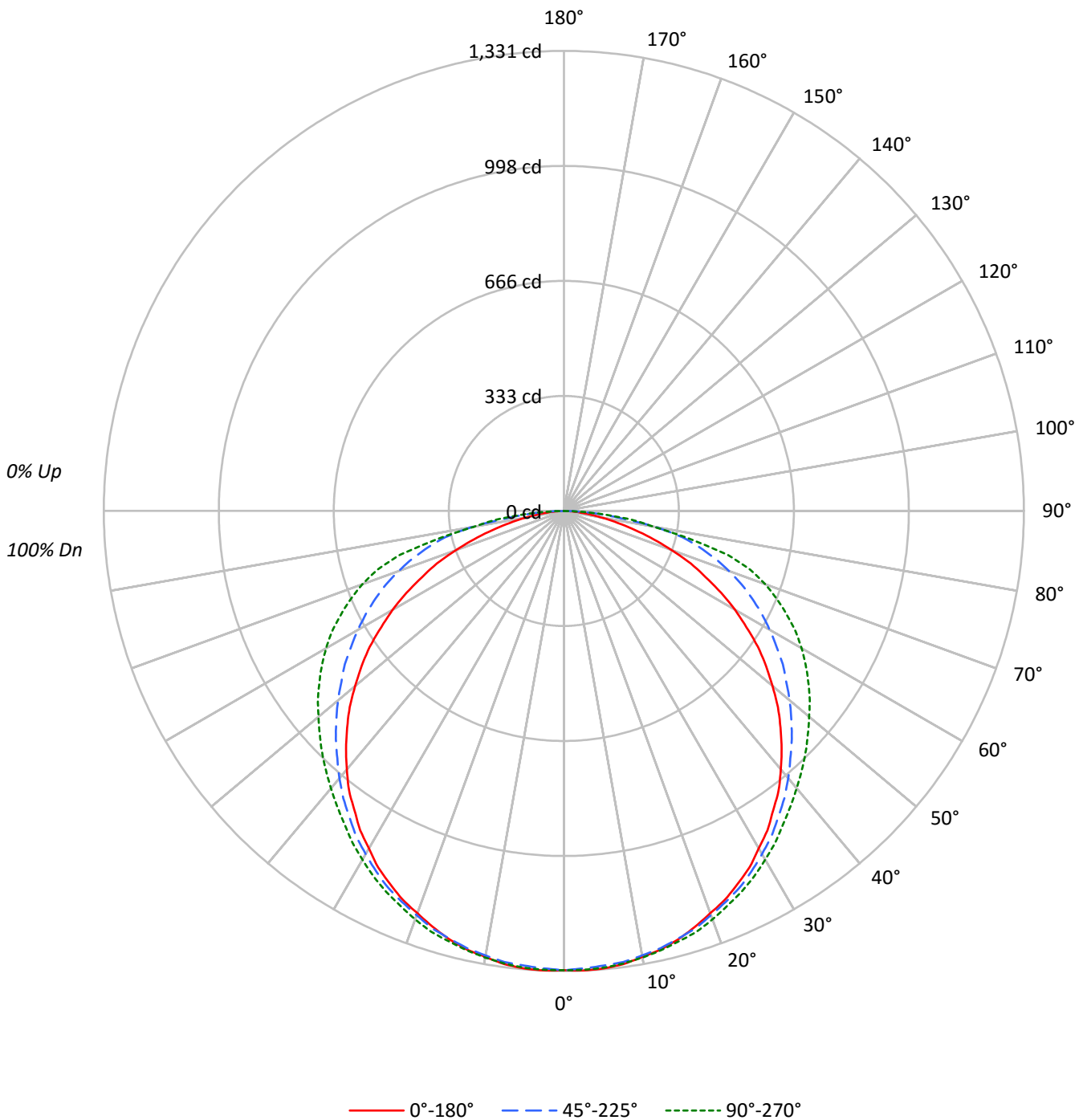
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1788	1788	1788
5°	1794	1783	1792
10°	1790	1784	1792
15°	1786	1784	1795
20°	1773	1782	1800
25°	1767	1786	1805
30°	1752	1781	1810
35°	1735	1776	1817
40°	1715	1774	1840
45°	1687	1775	1882
50°	1649	1785	1939
55°	1608	1814	2025
60°	1540	1850	2137
65°	1441	1915	2268
70°	1311	2003	2440
75°	1111	2114	2549
80°	877	2127	2062
85°	647	1618	1812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.0	3.0
10°-20°	362.7	8.6
20°-30°	554.7	13.1
30°-40°	678.1	16.0
40°-50°	722.7	17.1
50°-60°	691.0	16.4
60°-70°	585.4	13.9
70°-80°	393.4	9.3
80°-90°	111.0	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°	1043.4	24.7
0°-40°	1721.5	40.7
0°-60°	3135.2	74.2
0°-90°	4225.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4225.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1329	1326	1320	1326	1326	126
15°	1282	1282	1280	1291	1289	362
25°	1190	1194	1203	1213	1216	549
35°	1056	1065	1081	1102	1106	662
45°	886	901	933	972	989	684
55°	685	710	773	834	863	610
65°	453	499	602	681	712	449
75°	214	291	407	476	490	229
85°	42	86	105	113	117	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1328.6	1328.6	1328.6	1328.6	1328.6
2.5°	1330.7	1330.7	1324.5	1328.6	1328.6
5°	1328.6	1326.5	1320.3	1326.5	1326.5
7.5°	1322.4	1320.3	1316.1	1322.4	1320.3
10°	1309.8	1309.8	1305.6	1311.9	1311.9
12.5°	1299.3	1297.2	1295.1	1303.5	1301.4
15°	1282.5	1282.5	1280.4	1290.9	1288.8
17.5°	1261.6	1263.7	1265.8	1274.2	1276.3
20°	1238.5	1242.7	1244.8	1257.4	1257.4
22.5°	1217.6	1219.7	1223.9	1236.4	1236.4
25°	1190.3	1194.5	1202.9	1213.4	1215.5
27.5°	1163.1	1165.2	1175.7	1190.3	1192.4
30°	1127.5	1133.7	1146.3	1163.1	1165.2
32.5°	1096.0	1102.3	1117.0	1133.7	1137.9
35°	1056.2	1064.6	1081.4	1102.3	1106.5
37.5°	1020.6	1026.9	1047.8	1070.9	1077.2
40°	976.6	989.1	1010.1	1037.3	1047.8
42.5°	932.6	945.1	970.3	1005.9	1018.5
45°	886.5	901.1	932.6	972.4	989.1
47.5°	840.4	857.1	892.7	938.9	957.7
50°	788.0	808.9	852.9	905.3	926.3
52.5°	737.7	762.8	811.0	869.7	896.9
55°	685.3	710.4	773.3	834.1	863.4
57.5°	626.6	660.1	729.3	798.4	829.9
60°	572.1	603.5	687.4	762.8	794.3
62.5°	513.4	555.3	645.5	725.1	756.5
65°	452.7	498.8	601.5	681.1	712.5
67.5°	398.2	448.5	557.4	637.1	668.5
70°	333.2	396.1	509.2	588.9	620.3
72.5°	272.4	341.6	458.9	536.5	565.8
75°	213.8	291.3	406.6	475.7	490.4
77.5°	159.3	241.0	352.1	381.4	370.9
80°	113.2	192.8	274.5	259.9	266.1
82.5°	73.3	146.7	169.7	192.8	199.1
85°	41.9	85.9	104.8	113.2	117.4
87.5°	18.9	31.4	41.9	41.9	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)