

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: P310441

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP250-W2A-U-5000K**

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: P310441
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 5000K 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: 4143.0 lumens
Efficiency: N/A
Efficacy: 70.1 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

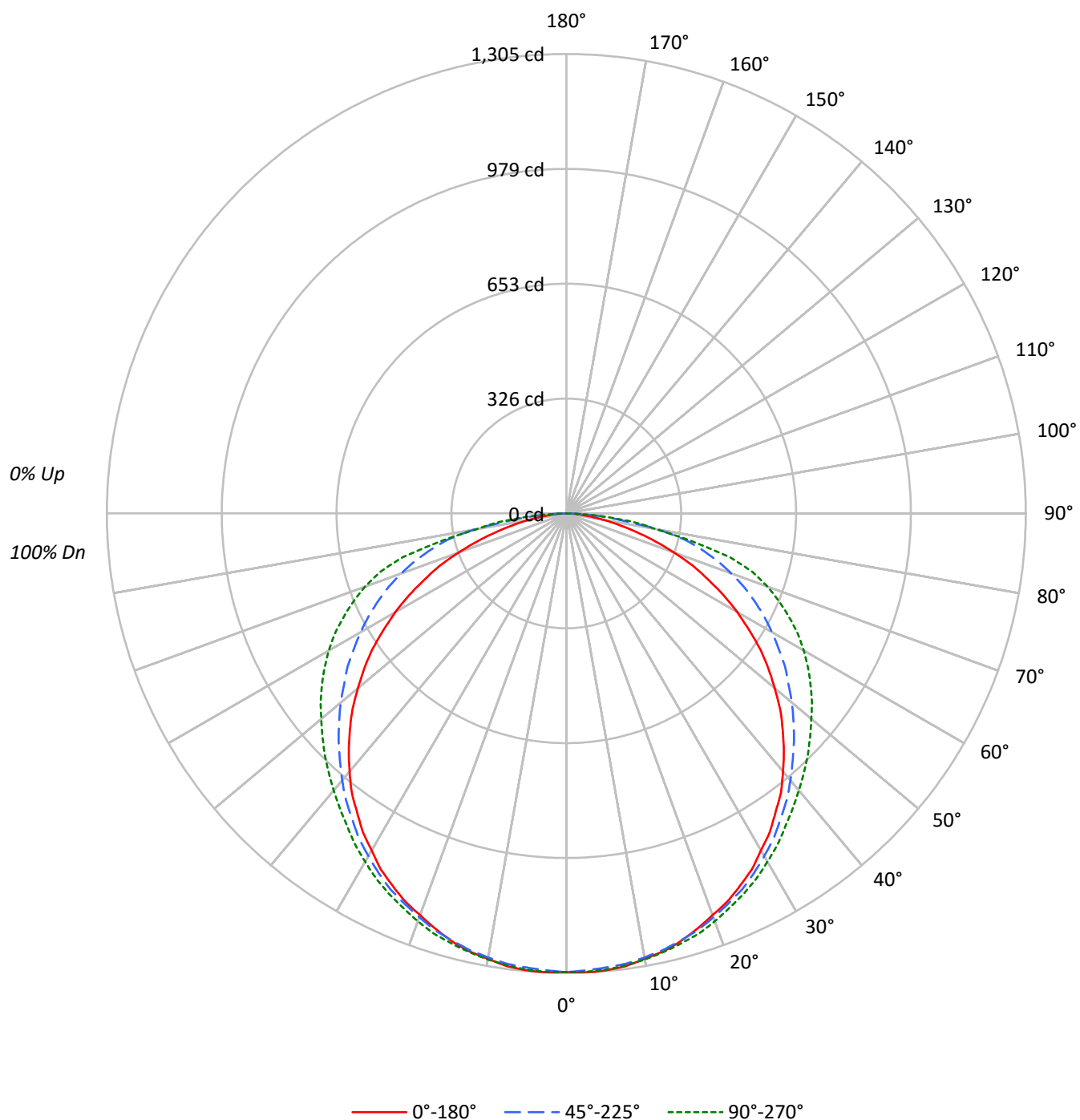
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1753	1753	1753
5°	1760	1749	1757
10°	1755	1749	1758
15°	1752	1749	1760
20°	1739	1748	1765
25°	1733	1751	1769
30°	1718	1746	1775
35°	1701	1742	1782
40°	1682	1740	1805
45°	1654	1740	1846
50°	1617	1751	1901
55°	1576	1779	1986
60°	1510	1814	2096
65°	1413	1878	2224
70°	1285	1965	2393
75°	1090	2073	2500
80°	860	2086	2022
85°	634	1585	1777



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.6	3.0
10°-20°	355.7	8.6
20°-30°	543.9	13.1
30°-40°	664.9	16.0
40°-50°	708.7	17.1
50°-60°	677.6	16.4
60°-70°	574.0	13.9
70°-80°	385.8	9.3
80°-90°	108.8	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°	1023.2	24.7
0°-40°	1688.1	40.7
0°-60°	3074.4	74.2
0°-90°	4143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4143.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1303	1303	1303	1303	1303	
5°	1303	1301	1295	1301	1301	124
15°	1258	1258	1256	1266	1264	355
25°	1167	1171	1180	1190	1192	538
35°	1036	1044	1060	1081	1085	649
45°	869	884	914	954	970	670
55°	672	697	758	818	847	599
65°	444	489	590	668	699	441
75°	210	286	399	466	481	224
85°	41	84	103	111	115	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1302.9	1302.9	1302.9	1302.9	1302.9
2.5°	1304.9	1304.9	1298.7	1302.9	1302.9
5°	1302.9	1300.8	1294.6	1300.8	1300.8
7.5°	1296.7	1294.6	1290.5	1296.7	1294.6
10°	1284.4	1284.4	1280.3	1286.4	1286.4
12.5°	1274.1	1272.0	1270.0	1278.2	1276.1
15°	1257.6	1257.6	1255.6	1265.9	1263.8
17.5°	1237.1	1239.2	1241.2	1249.4	1251.5
20°	1214.5	1218.6	1220.7	1233.0	1233.0
22.5°	1193.9	1196.0	1200.1	1212.4	1212.4
25°	1167.2	1171.3	1179.6	1189.8	1191.9
27.5°	1140.5	1142.6	1152.8	1167.2	1169.3
30°	1105.6	1111.7	1124.1	1140.5	1142.6
32.5°	1074.8	1080.9	1095.3	1111.7	1115.9
35°	1035.7	1043.9	1060.4	1080.9	1085.0
37.5°	1000.8	1006.9	1027.5	1050.1	1056.3
40°	957.6	969.9	990.5	1017.2	1027.5
42.5°	914.5	926.8	951.5	986.4	998.7
45°	869.3	883.6	914.5	953.5	969.9
47.5°	824.0	840.5	875.4	920.6	939.1
50°	772.7	793.2	836.4	887.7	908.3
52.5°	723.4	748.0	795.3	852.8	879.5
55°	672.0	696.6	758.3	817.9	846.7
57.5°	614.4	647.3	715.1	782.9	813.8
60°	561.0	591.8	674.0	748.0	778.8
62.5°	503.5	544.6	632.9	711.0	741.8
65°	443.9	489.1	589.8	667.9	698.7
67.5°	390.4	439.8	546.6	624.7	655.5
70°	326.7	388.4	499.4	577.4	608.3
72.5°	267.1	335.0	450.0	526.1	554.8
75°	209.6	285.6	398.7	466.5	480.9
77.5°	156.2	236.3	345.2	374.0	363.7
80°	111.0	189.1	269.2	254.8	261.0
82.5°	71.9	143.8	166.5	189.1	195.2
85°	41.1	84.3	102.7	111.0	115.1
87.5°	18.5	30.8	41.1	41.1	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)