

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: P310434

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP187-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: P310434
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-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" 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: 4230.0 lumens
Efficiency: N/A
Efficacy: 71.3 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

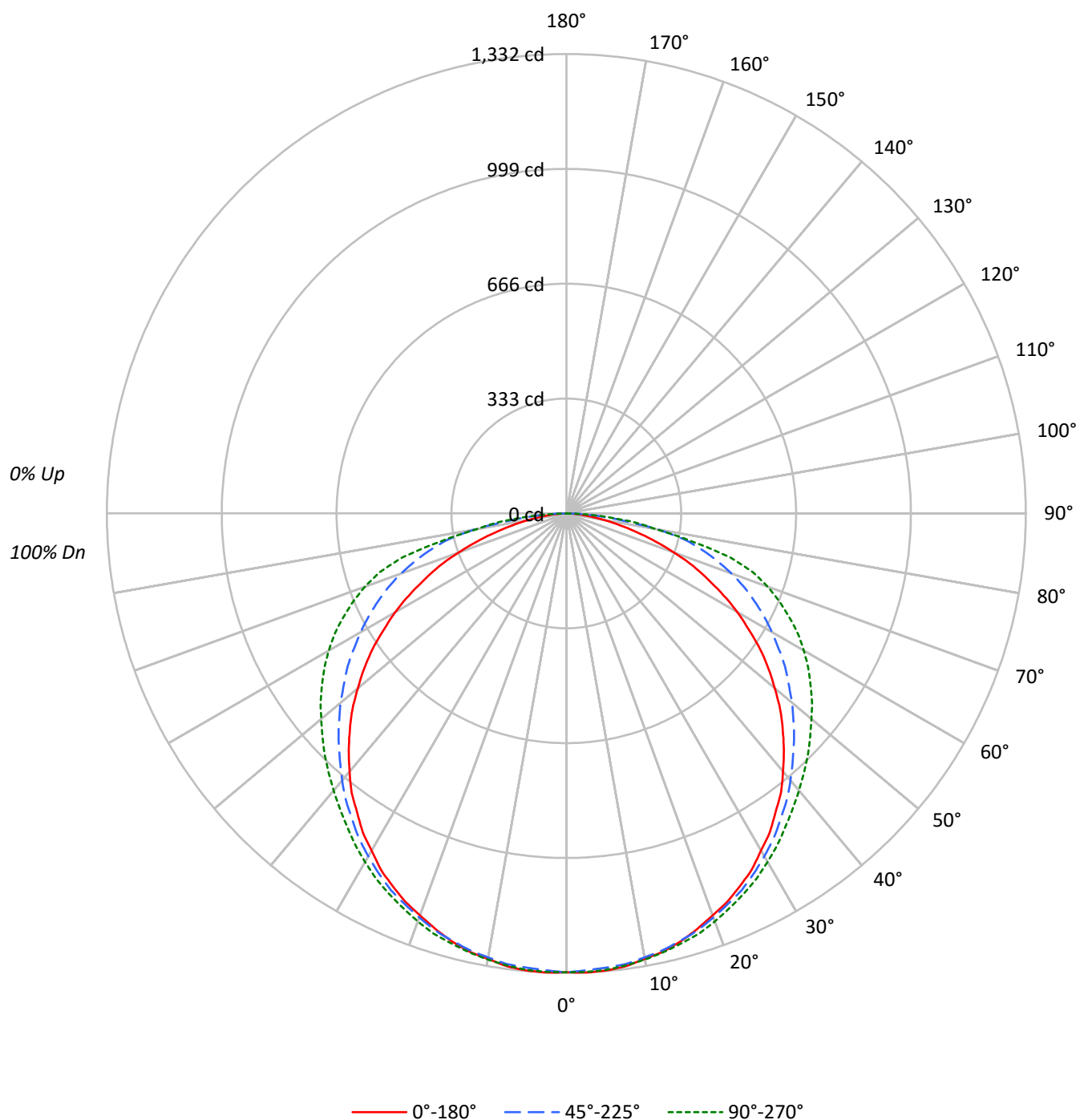
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1790	1790	1790
5°	1797	1785	1794
10°	1792	1786	1794
15°	1789	1786	1797
20°	1775	1785	1803
25°	1769	1788	1807
30°	1754	1783	1812
35°	1737	1778	1820
40°	1717	1776	1843
45°	1689	1777	1884
50°	1651	1787	1941
55°	1609	1816	2028
60°	1541	1852	2140
65°	1443	1917	2271
70°	1312	2006	2443
75°	1112	2116	2552
80°	878	2130	2065
85°	648	1619	1814



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	3.0
10°-20°	363.2	8.6
20°-30°	555.3	13.1
30°-40°	678.9	16.0
40°-50°	723.6	17.1
50°-60°	691.8	16.4
60°-70°	586.1	13.9
70°-80°	393.9	9.3
80°-90°	111.1	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°	1044.7	24.7
0°-40°	1723.6	40.7
0°-60°	3139.0	74.2
0°-90°	4230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1330	1328	1322	1328	1328	126
15°	1284	1284	1282	1292	1290	362
25°	1192	1196	1204	1215	1217	549
35°	1058	1066	1083	1104	1108	662
45°	888	902	934	974	990	685
55°	686	711	774	835	864	611
65°	453	499	602	682	713	450
75°	214	292	407	476	491	229
85°	42	86	105	113	118	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1330.2	1330.2	1330.2	1330.2	1330.2
2.5°	1332.3	1332.3	1326.0	1330.2	1330.2
5°	1330.2	1328.1	1321.8	1328.1	1328.1
7.5°	1323.9	1321.8	1317.6	1323.9	1321.8
10°	1311.3	1311.3	1307.1	1313.4	1313.4
12.5°	1300.8	1298.7	1296.6	1305.0	1302.9
15°	1284.1	1284.1	1282.0	1292.4	1290.3
17.5°	1263.1	1265.2	1267.3	1275.7	1277.8
20°	1240.0	1244.2	1246.3	1258.9	1258.9
22.5°	1219.0	1221.1	1225.3	1237.9	1237.9
25°	1191.7	1195.9	1204.3	1214.8	1216.9
27.5°	1164.5	1166.6	1177.1	1191.7	1193.8
30°	1128.8	1135.1	1147.7	1164.5	1166.6
32.5°	1097.3	1103.6	1118.3	1135.1	1139.3
35°	1057.5	1065.8	1082.6	1103.6	1107.8
37.5°	1021.8	1028.1	1049.1	1072.1	1078.4
40°	977.7	990.3	1011.3	1038.6	1049.1
42.5°	933.7	946.3	971.4	1007.1	1019.7
45°	887.5	902.2	933.7	973.5	990.3
47.5°	841.3	858.1	893.8	940.0	958.8
50°	788.9	809.9	853.9	906.4	927.4
52.5°	738.5	763.7	812.0	870.7	898.0
55°	686.1	711.3	774.2	835.1	864.4
57.5°	627.3	660.9	730.1	799.4	830.9
60°	572.8	604.3	688.2	763.7	795.2
62.5°	514.0	556.0	646.2	726.0	757.4
65°	453.2	499.4	602.2	681.9	713.4
67.5°	398.6	449.0	558.1	637.8	669.3
70°	333.6	396.5	509.8	589.6	621.0
72.5°	272.8	342.0	459.5	537.1	566.5
75°	214.0	291.6	407.0	476.3	491.0
77.5°	159.5	241.3	352.5	381.9	371.4
80°	113.3	193.0	274.9	260.2	266.5
82.5°	73.4	146.9	169.9	193.0	199.3
85°	42.0	86.0	104.9	113.3	117.5
87.5°	18.9	31.5	42.0	42.0	39.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)