

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: P310421

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP125-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: P310421
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" 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: 4228.0 lumens
Efficiency: N/A
Efficacy: 72.4 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

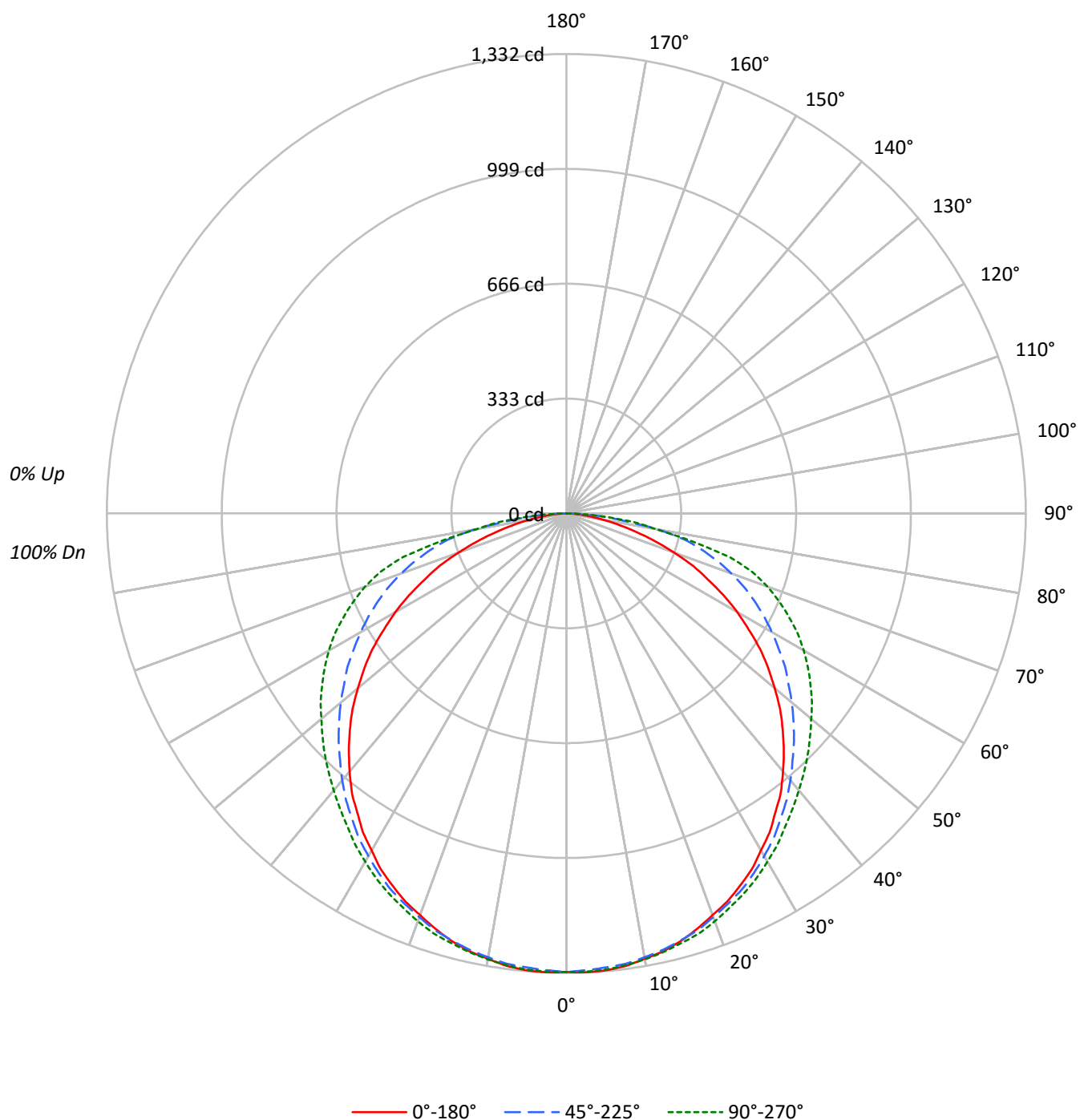
Input Watts (W): 58.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1789	1789	1789
5°	1796	1784	1793
10°	1791	1785	1794
15°	1788	1785	1796
20°	1775	1784	1802
25°	1768	1787	1806
30°	1753	1782	1812
35°	1736	1777	1819
40°	1717	1775	1842
45°	1688	1776	1883
50°	1650	1787	1940
55°	1609	1815	2027
60°	1541	1851	2139
65°	1442	1916	2270
70°	1312	2005	2442
75°	1112	2115	2551
80°	877	2128	2063
85°	647	1619	1812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	3.0
10°-20°	363.0	8.6
20°-30°	555.1	13.1
30°-40°	678.6	16.0
40°-50°	723.2	17.1
50°-60°	691.5	16.4
60°-70°	585.8	13.9
70°-80°	393.7	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°	1044.2	24.7
0°-40°	1722.8	40.7
0°-60°	3137.5	74.2
0°-90°	4228.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4228.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1330	1328	1321	1328	1328	126
15°	1283	1283	1281	1292	1290	362
25°	1191	1195	1204	1214	1216	549
35°	1057	1065	1082	1103	1107	662
45°	887	902	933	973	990	684
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	117	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1329.6	1329.6	1329.6	1329.6	1329.6
2.5°	1331.7	1331.7	1325.4	1329.6	1329.6
5°	1329.6	1327.5	1321.2	1327.5	1327.5
7.5°	1323.3	1321.2	1317.0	1323.3	1321.2
10°	1310.7	1310.7	1306.5	1312.8	1312.8
12.5°	1300.2	1298.1	1296.0	1304.4	1302.3
15°	1283.4	1283.4	1281.4	1291.8	1289.7
17.5°	1262.5	1264.6	1266.7	1275.1	1277.2
20°	1239.4	1243.6	1245.7	1258.3	1258.3
22.5°	1218.4	1220.5	1224.7	1237.3	1237.3
25°	1191.2	1195.4	1203.8	1214.2	1216.3
27.5°	1163.9	1166.0	1176.5	1191.2	1193.3
30°	1128.3	1134.6	1147.1	1163.9	1166.0
32.5°	1096.8	1103.1	1117.8	1134.6	1138.7
35°	1057.0	1065.3	1082.1	1103.1	1107.3
37.5°	1021.3	1027.6	1048.6	1071.6	1077.9
40°	977.3	989.8	1010.8	1038.1	1048.6
42.5°	933.2	945.8	971.0	1006.6	1019.2
45°	887.1	901.8	933.2	973.1	989.8
47.5°	841.0	857.7	893.4	939.5	958.4
50°	788.5	809.5	853.5	906.0	926.9
52.5°	738.2	763.4	811.6	870.3	897.6
55°	685.8	710.9	773.8	834.7	864.0
57.5°	627.0	660.6	729.8	799.0	830.5
60°	572.5	604.0	687.9	763.4	794.8
62.5°	513.8	555.7	645.9	725.6	757.1
65°	453.0	499.1	601.9	681.6	713.0
67.5°	398.5	448.8	557.8	637.5	669.0
70°	333.4	396.4	509.6	589.3	620.8
72.5°	272.6	341.8	459.3	536.9	566.2
75°	213.9	291.5	406.8	476.1	490.7
77.5°	159.4	241.2	352.3	381.7	371.2
80°	113.2	192.9	274.7	260.0	266.3
82.5°	73.4	146.8	169.9	192.9	199.2
85°	41.9	86.0	104.9	113.2	117.4
87.5°	18.9	31.5	41.9	41.9	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)