

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: P310409

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA125-W2A-U-2700K**

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: P310409
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-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" ACRYLIC SHEET
Light Source: (336) 2700K 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: 3964.0 lumens
Efficiency: N/A
Efficacy: 68.7 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

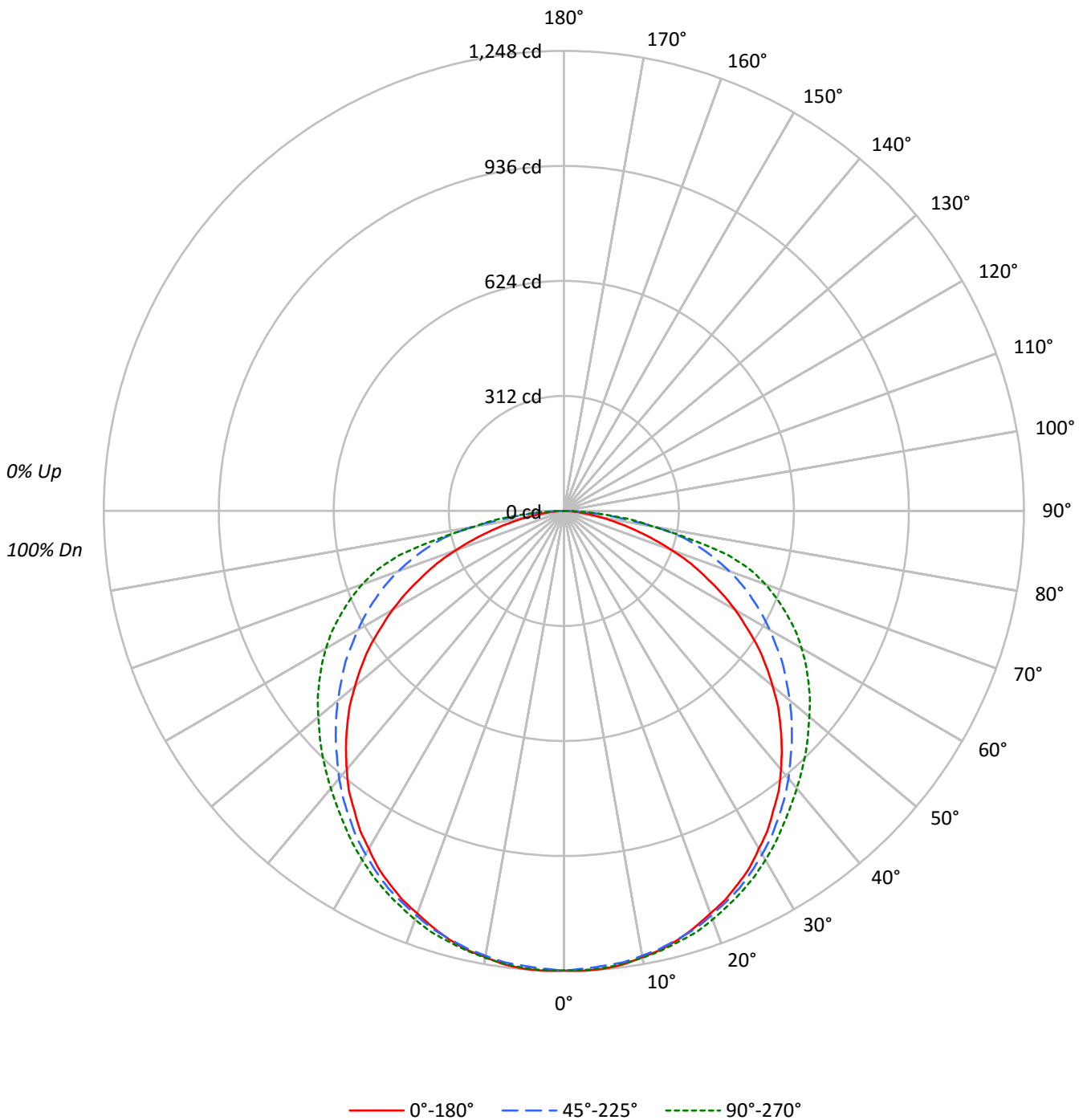
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1677	1677	1677
5°	1684	1673	1681
10°	1679	1674	1682
15°	1676	1673	1684
20°	1664	1672	1689
25°	1658	1676	1693
30°	1643	1671	1698
35°	1628	1667	1705
40°	1609	1665	1727
45°	1583	1665	1766
50°	1548	1675	1819
55°	1508	1702	1900
60°	1445	1735	2005
65°	1352	1797	2128
70°	1230	1880	2290
75°	1043	1983	2392
80°	823	1996	1935
85°	607	1518	1700



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.2	3.0
10°-20°	340.3	8.6
20°-30°	520.4	13.1
30°-40°	636.2	16.0
40°-50°	678.1	17.1
50°-60°	648.3	16.4
60°-70°	549.2	13.9
70°-80°	369.1	9.3
80°-90°	104.1	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°	979.0	24.7
0°-40°	1615.2	40.7
0°-60°	2941.6	74.2
0°-90°	3964.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3964.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1247	1247	1247	1247	1247	
5°	1247	1245	1239	1245	1245	118
15°	1203	1203	1201	1211	1209	339
25°	1117	1121	1129	1138	1140	515
35°	991	999	1015	1034	1038	621
45°	832	846	875	912	928	641
55°	643	666	726	782	810	573
65°	425	468	564	639	668	422
75°	201	273	381	446	460	215
85°	39	81	98	106	110	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1246.6	1246.6	1246.6	1246.6	1246.6
2.5°	1248.5	1248.5	1242.6	1246.6	1246.6
5°	1246.6	1244.6	1238.7	1244.6	1244.6
7.5°	1240.7	1238.7	1234.8	1240.7	1238.7
10°	1228.9	1228.9	1224.9	1230.8	1230.8
12.5°	1219.0	1217.1	1215.1	1223.0	1221.0
15°	1203.3	1203.3	1201.3	1211.2	1209.2
17.5°	1183.6	1185.6	1187.6	1195.4	1197.4
20°	1162.0	1166.0	1167.9	1179.7	1179.7
22.5°	1142.4	1144.3	1148.3	1160.1	1160.1
25°	1116.8	1120.7	1128.6	1138.4	1140.4
27.5°	1091.2	1093.2	1103.0	1116.8	1118.8
30°	1057.8	1063.7	1075.5	1091.2	1093.2
32.5°	1028.3	1034.2	1048.0	1063.7	1067.6
35°	991.0	998.8	1014.6	1034.2	1038.1
37.5°	957.5	963.4	983.1	1004.7	1010.6
40°	916.2	928.0	947.7	973.3	983.1
42.5°	875.0	886.8	910.3	943.8	955.6
45°	831.7	845.5	875.0	912.3	928.0
47.5°	788.4	804.2	837.6	880.9	898.5
50°	739.3	758.9	800.2	849.4	869.1
52.5°	692.1	715.7	760.9	816.0	841.5
55°	642.9	666.5	725.5	782.5	810.1
57.5°	587.9	619.4	684.2	749.1	778.6
60°	536.8	566.3	644.9	715.7	745.2
62.5°	481.7	521.0	605.6	680.3	709.8
65°	424.7	468.0	564.3	639.0	668.5
67.5°	373.6	420.8	523.0	597.7	627.2
70°	312.6	371.6	477.8	552.5	582.0
72.5°	255.6	320.5	430.6	503.3	530.9
75°	200.6	273.3	381.4	446.3	460.1
77.5°	149.4	226.1	330.3	357.8	348.0
80°	106.2	180.9	257.6	243.8	249.7
82.5°	68.8	137.6	159.3	180.9	186.8
85°	39.3	80.6	98.3	106.2	110.1
87.5°	17.7	29.5	39.3	39.3	37.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)