

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: P310420

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP125-W2A-U-3500K**

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: P310420
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB SHEET
Light Source: (336) 3500K 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: 4138.0 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

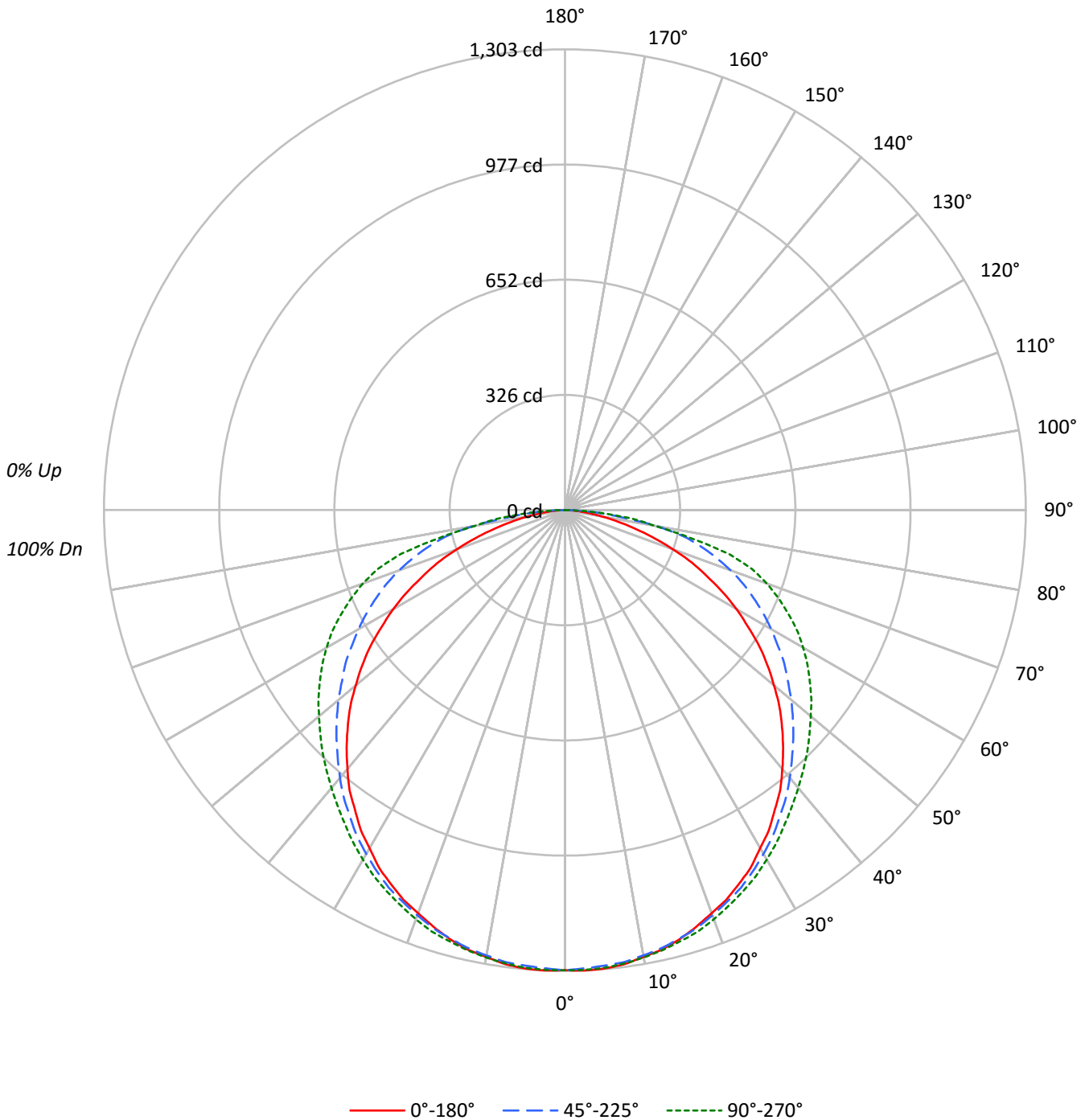
Input Watts (W): 58
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1751	1751	1751
5°	1758	1746	1755
10°	1753	1747	1755
15°	1750	1747	1758
20°	1737	1746	1763
25°	1731	1749	1767
30°	1716	1744	1773
35°	1699	1740	1780
40°	1680	1738	1802
45°	1652	1738	1843
50°	1615	1749	1899
55°	1574	1777	1984
60°	1508	1812	2093
65°	1411	1876	2222
70°	1284	1962	2390
75°	1089	2070	2497
80°	859	2084	2020
85°	633	1584	1774



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.4	3.0
10°-20°	355.3	8.6
20°-30°	543.3	13.1
30°-40°	664.1	16.0
40°-50°	707.8	17.1
50°-60°	676.8	16.4
60°-70°	573.3	13.9
70°-80°	385.3	9.3
80°-90°	108.7	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°	1022.0	24.7
0°-40°	1686.1	40.7
0°-60°	3070.7	74.2
0°-90°	4138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4138.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1301	1299	1293	1299	1299	124
15°	1256	1256	1254	1264	1262	354
25°	1166	1170	1178	1188	1190	537
35°	1034	1043	1059	1080	1084	648
45°	868	883	913	952	969	670
55°	671	696	757	817	846	598
65°	443	488	589	667	698	440
75°	209	285	398	466	480	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°	1301.3	1301.3	1301.3	1301.3	1301.3
2.5°	1303.3	1303.3	1297.2	1301.3	1301.3
5°	1301.3	1299.2	1293.1	1299.2	1299.2
7.5°	1295.1	1293.1	1289.0	1295.1	1293.1
10°	1282.8	1282.8	1278.7	1284.9	1284.9
12.5°	1272.5	1270.5	1268.4	1276.7	1274.6
15°	1256.1	1256.1	1254.1	1264.3	1262.3
17.5°	1235.6	1237.7	1239.7	1247.9	1250.0
20°	1213.0	1217.1	1219.2	1231.5	1231.5
22.5°	1192.5	1194.6	1198.7	1211.0	1211.0
25°	1165.8	1169.9	1178.1	1188.4	1190.4
27.5°	1139.1	1141.2	1151.5	1165.8	1167.9
30°	1104.2	1110.4	1122.7	1139.1	1141.2
32.5°	1073.5	1079.6	1094.0	1110.4	1114.5
35°	1034.5	1042.7	1059.1	1079.6	1083.7
37.5°	999.6	1005.7	1026.2	1048.8	1055.0
40°	956.5	968.8	989.3	1016.0	1026.2
42.5°	913.4	925.7	950.3	985.2	997.5
45°	868.2	882.6	913.4	952.4	968.8
47.5°	823.1	839.5	874.4	919.5	938.0
50°	771.7	792.3	835.4	886.7	907.2
52.5°	722.5	747.1	794.3	851.8	878.5
55°	671.2	695.8	757.4	816.9	845.6
57.5°	613.7	646.5	714.3	782.0	812.8
60°	560.3	591.1	673.2	747.1	777.9
62.5°	502.9	543.9	632.2	710.2	741.0
65°	443.3	488.5	589.1	667.1	697.8
67.5°	390.0	439.2	546.0	624.0	654.7
70°	326.3	387.9	498.8	576.8	607.5
72.5°	266.8	334.6	449.5	525.4	554.2
75°	209.4	285.3	398.2	465.9	480.3
77.5°	156.0	236.0	344.8	373.6	363.3
80°	110.8	188.8	268.9	254.5	260.7
82.5°	71.8	143.7	166.3	188.8	195.0
85°	41.0	84.2	102.6	110.8	114.9
87.5°	18.5	30.8	41.0	41.0	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)