

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: P310745

Luminaire Tested: **24FCZ2-40-UNV-L82765-CP187-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: P310745
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L82765-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 3457.0 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

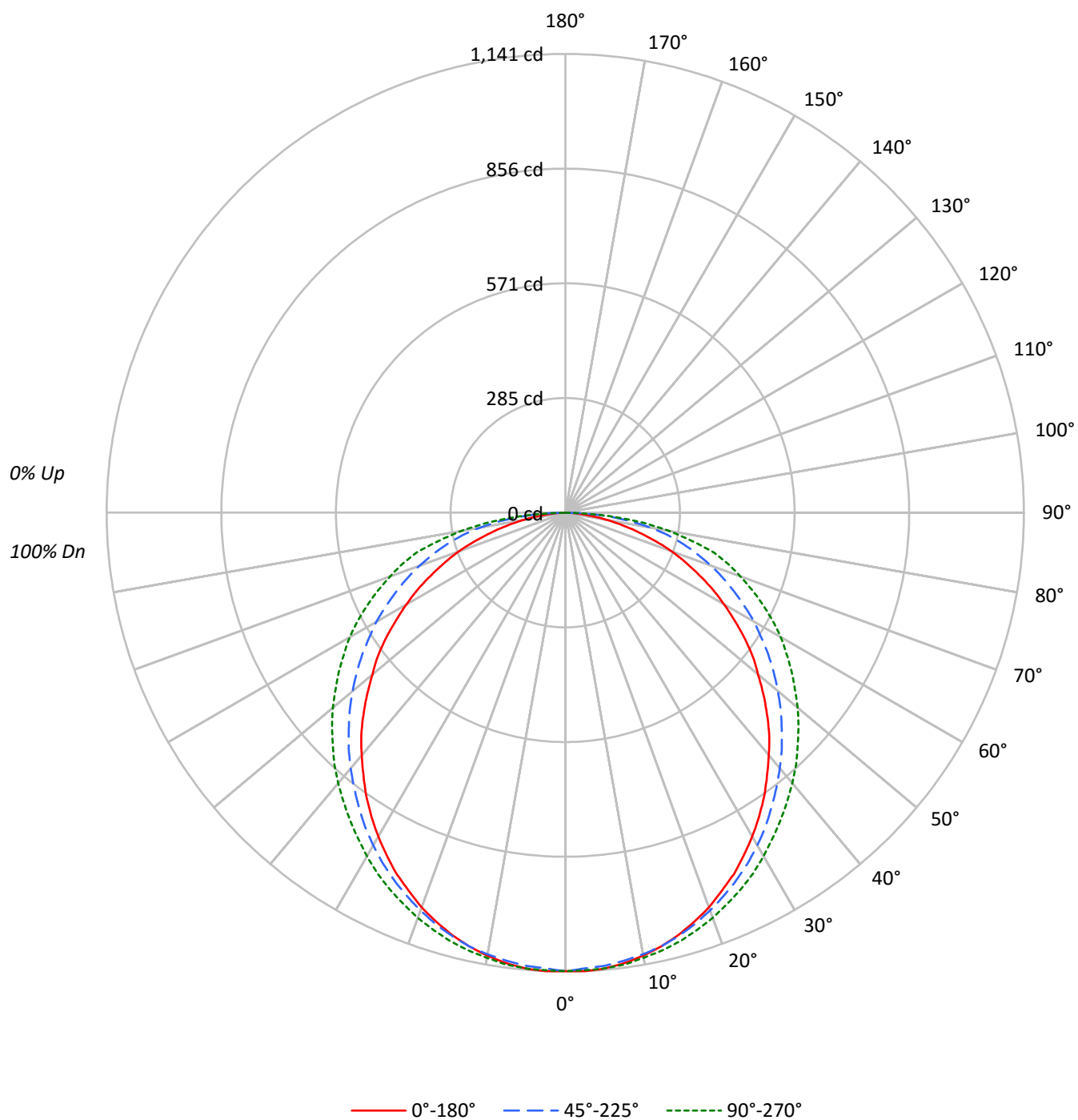
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1534	1534	1534
5°	1537	1527	1537
10°	1528	1523	1536
15°	1515	1518	1537
20°	1496	1508	1536
25°	1473	1497	1534
30°	1445	1484	1533
35°	1417	1469	1533
40°	1384	1459	1543
45°	1351	1449	1556
50°	1311	1445	1580
55°	1278	1448	1612
60°	1228	1460	1667
65°	1172	1475	1727
70°	1110	1520	1823
75°	990	1586	1992
80°	845	1680	2035
85°	602	1664	1948



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.9	3.1
10°-20°	308.5	8.9
20°-30°	466.0	13.5
30°-40°	561.6	16.2
40°-50°	589.6	17.1
50°-60°	551.6	16.0
60°-70°	455.5	13.2
70°-80°	310.4	9.0
80°-90°	105.9	3.1
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°	882.4	25.5
0°-40°	1444.0	41.8
0°-60°	2585.2	74.8
0°-90°	3457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1140	1140	1140	1140	1140	
5°	1138	1137	1131	1138	1138	108
15°	1087	1088	1090	1101	1103	306
25°	992	997	1008	1028	1033	456
35°	862	872	895	924	934	539
45°	710	725	762	803	818	548
55°	545	567	617	668	687	486
65°	368	399	463	522	542	365
75°	190	234	305	362	383	203
85°	39	77	108	122	126	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1140.1	1140.1	1140.1	1140.1	1140.1
2.5°	1141.2	1140.1	1134.4	1140.1	1138.9
5°	1137.8	1136.6	1130.9	1137.8	1137.8
7.5°	1129.8	1129.8	1124.0	1132.1	1133.2
10°	1118.3	1118.3	1114.9	1124.0	1124.0
12.5°	1104.5	1104.5	1104.5	1113.7	1114.9
15°	1087.3	1088.5	1089.6	1101.1	1103.4
17.5°	1066.7	1069.0	1072.4	1086.2	1088.5
20°	1044.9	1047.2	1052.9	1069.0	1072.4
22.5°	1017.4	1023.1	1031.1	1049.5	1052.9
25°	992.1	996.7	1008.2	1027.7	1033.4
27.5°	961.2	968.0	983.0	1003.6	1011.6
30°	930.2	937.1	955.4	979.5	986.4
32.5°	896.9	907.3	926.8	952.0	960.0
35°	862.5	871.7	894.6	924.5	933.6
37.5°	824.7	837.3	862.5	894.6	906.1
40°	788.0	801.7	830.4	864.8	878.6
42.5°	751.3	765.0	797.1	836.1	849.9
45°	710.0	724.9	761.6	802.9	817.8
47.5°	668.7	687.0	727.2	770.8	786.8
50°	626.2	646.9	690.5	736.4	754.7
52.5°	588.4	607.9	653.8	703.1	720.3
55°	544.8	566.6	617.1	667.5	687.0
57.5°	500.1	524.2	578.1	633.1	652.6
60°	456.5	482.9	542.5	597.6	619.4
62.5°	414.1	440.4	502.4	559.7	581.5
65°	368.2	399.1	463.4	521.9	542.5
67.5°	324.6	357.9	425.5	482.9	503.5
70°	282.2	314.3	386.5	442.7	463.4
72.5°	236.3	273.0	345.2	403.7	425.5
75°	190.4	234.0	305.1	362.4	383.1
77.5°	148.0	192.7	263.8	310.8	321.2
80°	109.0	154.8	216.8	250.0	262.7
82.5°	70.0	115.8	165.2	189.3	199.6
85°	39.0	76.8	107.8	121.6	126.2
87.5°	16.1	33.3	43.6	49.3	49.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)