

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: P310743

Luminaire Tested: **24FCZ2-40-UNV-L82765-CP187-W2A-U-3000K**

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: P310743
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-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 3270.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

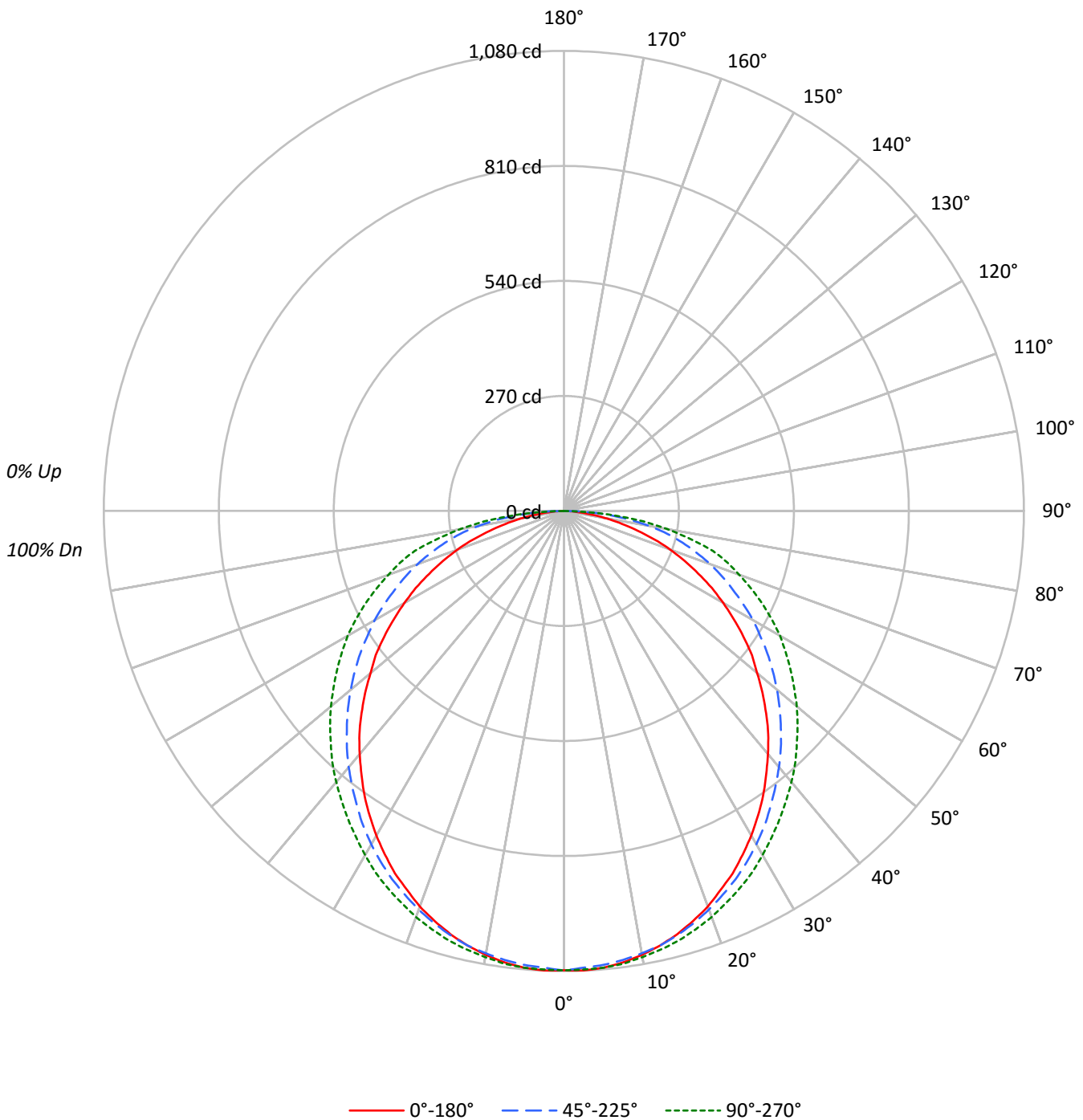
Input Watts (W): 32.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1451	1451	1451
5°	1454	1445	1454
10°	1445	1441	1453
15°	1433	1436	1454
20°	1415	1426	1452
25°	1393	1416	1451
30°	1367	1404	1450
35°	1340	1390	1451
40°	1309	1380	1460
45°	1278	1371	1472
50°	1240	1367	1494
55°	1209	1369	1525
60°	1162	1381	1577
65°	1109	1395	1634
70°	1050	1438	1724
75°	936	1500	1884
80°	799	1589	1925
85°	570	1575	1842



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.1	3.1
10°-20°	291.8	8.9
20°-30°	440.8	13.5
30°-40°	531.2	16.2
40°-50°	557.7	17.1
50°-60°	521.8	16.0
60°-70°	430.9	13.2
70°-80°	293.6	9.0
80°-90°	100.1	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°	834.7	25.5
0°-40°	1365.9	41.8
0°-60°	2445.4	74.8
0°-90°	3270.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3270.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1078	1078	1078	1078	1078	
5°	1076	1075	1070	1076	1076	102
15°	1028	1030	1031	1042	1044	290
25°	938	943	954	972	978	432
35°	816	824	846	874	883	510
45°	672	686	720	759	774	518
55°	515	536	584	631	650	460
65°	348	378	438	494	513	345
75°	180	221	289	343	362	192
85°	37	73	102	115	119	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1078.4	1078.4	1078.4	1078.4	1078.4
2.5°	1079.5	1078.4	1073.0	1078.4	1077.3
5°	1076.2	1075.2	1069.7	1076.2	1076.2
7.5°	1068.7	1068.7	1063.2	1070.8	1071.9
10°	1057.8	1057.8	1054.5	1063.2	1063.2
12.5°	1044.8	1044.8	1044.8	1053.5	1054.5
15°	1028.5	1029.6	1030.7	1041.5	1043.7
17.5°	1009.0	1011.2	1014.4	1027.4	1029.6
20°	988.4	990.5	996.0	1011.2	1014.4
22.5°	962.3	967.8	975.3	992.7	996.0
25°	938.5	942.8	953.7	972.1	977.5
27.5°	909.2	915.7	929.8	949.3	956.9
30°	879.9	886.4	903.7	926.5	933.0
32.5°	848.4	858.2	876.6	900.5	908.1
35°	815.9	824.5	846.2	874.5	883.1
37.5°	780.1	792.0	815.9	846.2	857.1
40°	745.3	758.4	785.5	818.0	831.1
42.5°	710.6	723.6	754.0	790.9	803.9
45°	671.6	685.7	720.4	759.4	773.6
47.5°	632.5	649.9	687.8	729.1	744.3
50°	592.4	611.9	653.1	696.5	713.9
52.5°	556.6	575.0	618.4	665.1	681.3
55°	515.3	536.0	583.7	631.4	649.9
57.5°	473.0	495.8	546.8	598.9	617.3
60°	431.8	456.8	513.2	565.2	585.9
62.5°	391.7	416.6	475.2	529.4	550.1
65°	348.3	377.6	438.3	493.6	513.2
67.5°	307.0	338.5	402.5	456.8	476.3
70°	266.9	297.3	365.6	418.8	438.3
72.5°	223.5	258.2	326.6	381.9	402.5
75°	180.1	221.3	288.6	342.8	362.4
77.5°	140.0	182.3	249.5	294.0	303.8
80°	103.1	146.5	205.1	236.5	248.4
82.5°	66.2	109.6	156.2	179.0	188.8
85°	36.9	72.7	102.0	115.0	119.3
87.5°	15.2	31.5	41.2	46.7	46.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)