

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: P313933

Luminaire Tested: **24FCZ2-40-UNV-L83050-CP187-W2A-U-4500K**

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: P313933
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-L83050-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4500K 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: 3671.0 lumens
Efficiency: N/A
Efficacy: 107.0 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

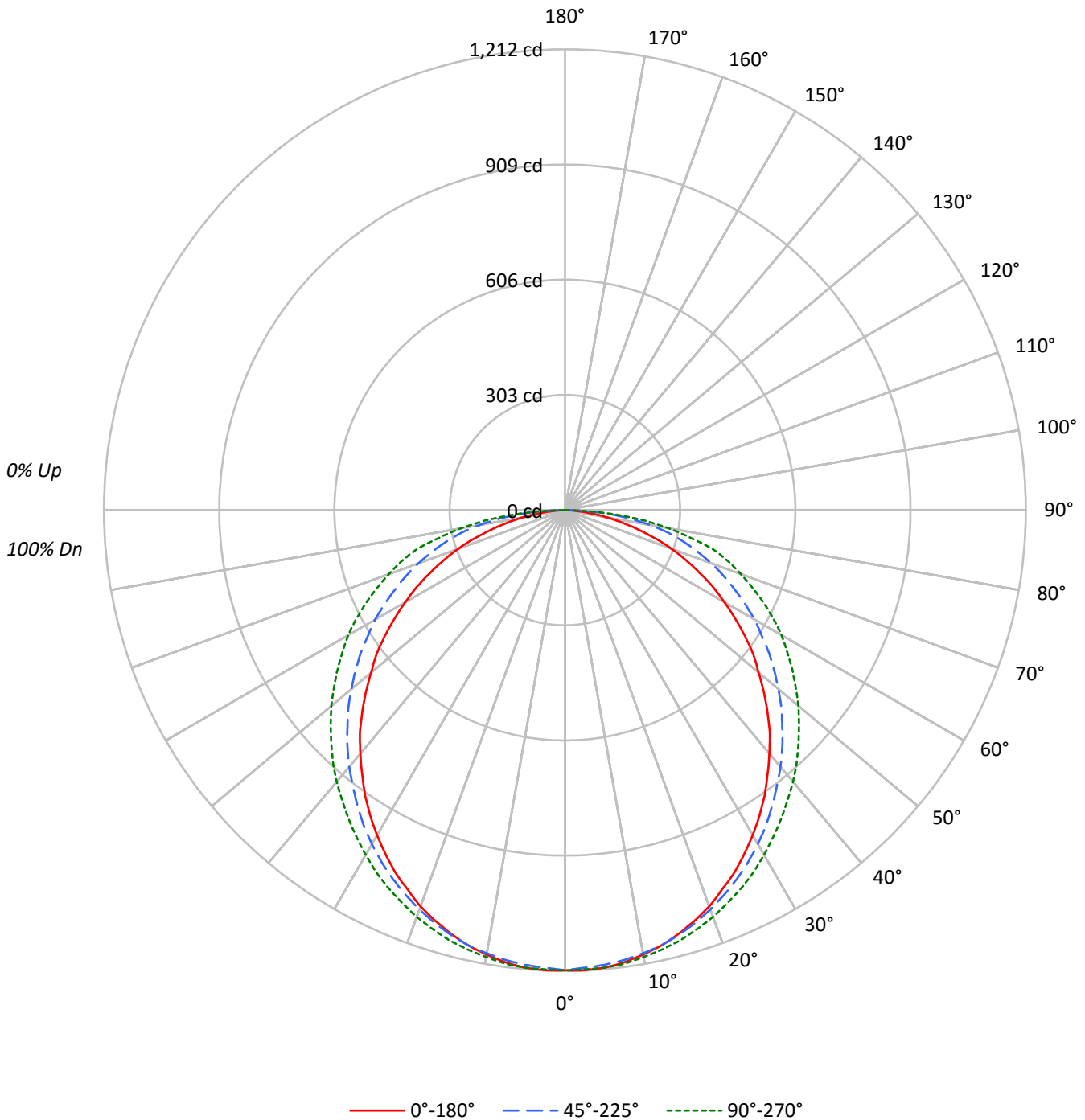
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1629	1629	1629
5°	1632	1622	1632
10°	1622	1617	1631
15°	1608	1612	1632
20°	1589	1601	1631
25°	1564	1589	1629
30°	1535	1576	1627
35°	1504	1560	1628
40°	1470	1549	1639
45°	1435	1539	1652
50°	1392	1535	1677
55°	1357	1537	1711
60°	1305	1550	1770
65°	1245	1567	1834
70°	1179	1615	1936
75°	1051	1684	2115
80°	896	1784	2161
85°	639	1768	2069



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.6	3.1
10°-20°	327.6	8.9
20°-30°	494.8	13.5
30°-40°	596.4	16.2
40°-50°	626.1	17.1
50°-60°	585.7	16.0
60°-70°	483.7	13.2
70°-80°	329.6	9.0
80°-90°	112.4	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°	937.0	25.5
0°-40°	1533.4	41.8
0°-60°	2745.2	74.8
0°-90°	3671.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3671.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1211	1211	1211	1211	1211	
5°	1208	1207	1201	1208	1208	115
15°	1155	1156	1157	1169	1172	325
25°	1054	1058	1071	1091	1097	485
35°	916	926	950	982	991	572
45°	754	770	809	853	868	581
55°	578	602	655	709	730	516
65°	391	424	492	554	576	388
75°	202	248	324	385	407	216
85°	41	82	114	129	134	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1210.7	1210.7	1210.7	1210.7	1210.7
2.5°	1211.9	1210.7	1204.6	1210.7	1209.4
5°	1208.2	1207.0	1200.9	1208.2	1208.2
7.5°	1199.7	1199.7	1193.6	1202.1	1203.4
10°	1187.5	1187.5	1183.9	1193.6	1193.6
12.5°	1172.9	1172.9	1172.9	1182.7	1183.9
15°	1154.6	1155.9	1157.1	1169.3	1171.7
17.5°	1132.7	1135.1	1138.8	1153.4	1155.9
20°	1109.6	1112.0	1118.1	1135.1	1138.8
22.5°	1080.3	1086.4	1095.0	1114.4	1118.1
25°	1053.5	1058.4	1070.6	1091.3	1097.4
27.5°	1020.7	1028.0	1043.8	1065.7	1074.3
30°	987.8	995.1	1014.6	1040.1	1047.5
32.5°	952.5	963.4	984.1	1010.9	1019.4
35°	915.9	925.7	950.0	981.7	991.4
37.5°	875.7	889.1	915.9	950.0	962.2
40°	836.7	851.4	881.8	918.4	933.0
42.5°	797.8	812.4	846.5	887.9	902.5
45°	753.9	769.8	808.7	852.6	868.4
47.5°	710.1	729.6	772.2	818.5	835.5
50°	665.0	686.9	733.2	781.9	801.4
52.5°	624.8	645.5	694.2	746.6	764.9
55°	578.5	601.7	655.3	708.9	729.6
57.5°	531.0	556.6	613.9	672.3	693.0
60°	484.8	512.8	576.1	634.6	657.7
62.5°	439.7	467.7	533.5	594.4	617.5
65°	391.0	423.9	492.1	554.2	576.1
67.5°	344.7	380.0	451.9	512.8	534.7
70°	299.6	333.7	410.5	470.1	492.1
72.5°	250.9	289.9	366.6	428.7	451.9
75°	202.2	248.5	324.0	384.9	406.8
77.5°	157.1	204.6	280.1	330.1	341.0
80°	115.7	164.4	230.2	265.5	278.9
82.5°	74.3	123.0	175.4	201.0	211.9
85°	41.4	81.6	114.5	129.1	134.0
87.5°	17.1	35.3	46.3	52.4	52.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)