

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: P313832

Luminaire Tested: **24FCZ2-30-UNV-L83050-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: P313832
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: 24FCZ2-30-UNV-L83050-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: 2724.0 lumens
Efficiency: N/A
Efficacy: 114.0 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

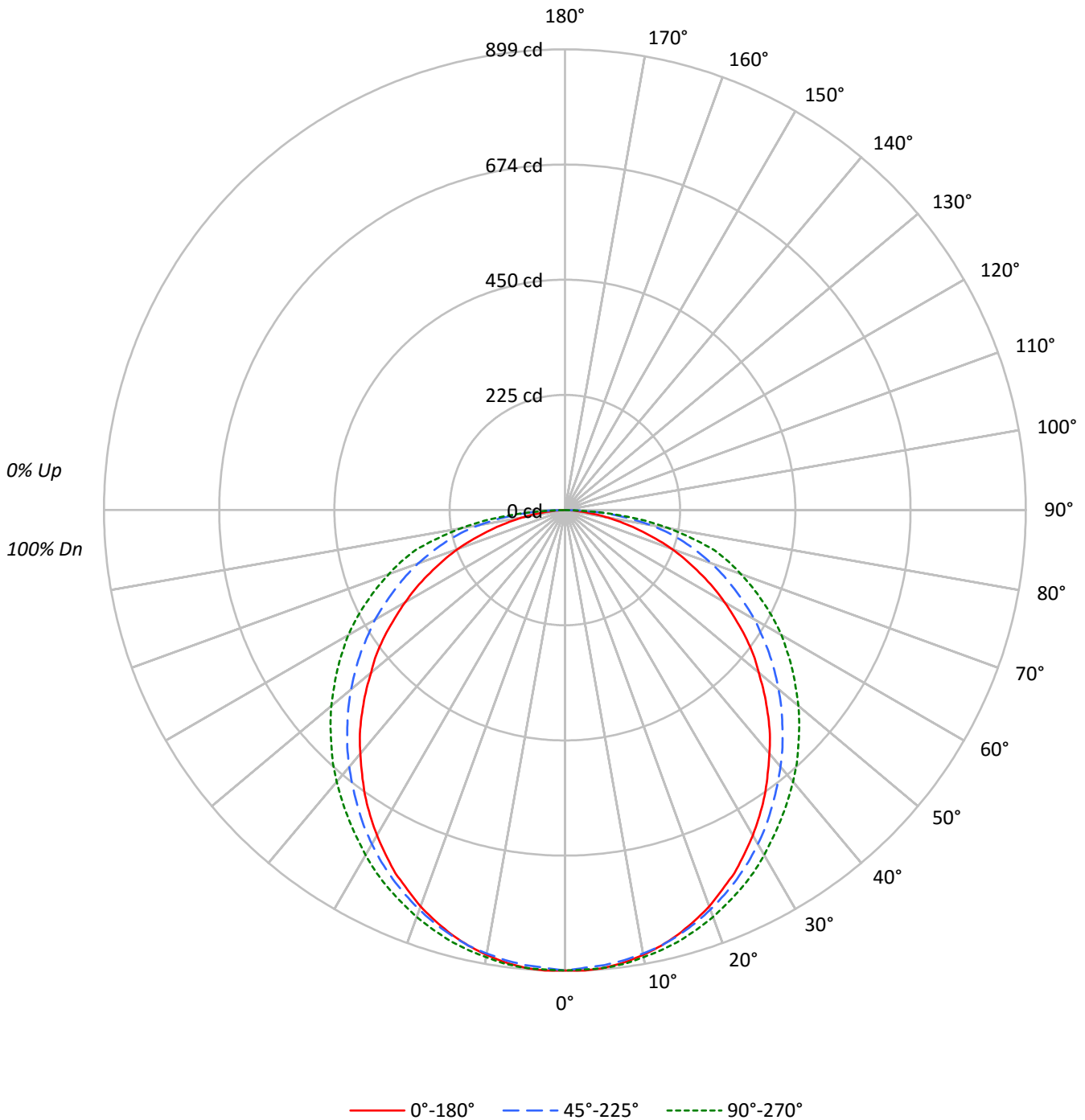
Input Watts (W): 23.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1209	1209	1209
5°	1211	1204	1211
10°	1204	1200	1210
15°	1193	1196	1211
20°	1179	1188	1210
25°	1161	1179	1209
30°	1139	1170	1207
35°	1116	1158	1208
40°	1091	1149	1216
45°	1064	1142	1226
50°	1033	1139	1245
55°	1007	1141	1270
60°	968	1150	1313
65°	924	1162	1361
70°	875	1198	1436
75°	780	1250	1569
80°	666	1323	1604
85°	474	1312	1535



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.0	3.1
10°-20°	243.1	8.9
20°-30°	367.2	13.5
30°-40°	442.5	16.2
40°-50°	464.6	17.1
50°-60°	434.6	16.0
60°-70°	358.9	13.2
70°-80°	244.6	9.0
80°-90°	83.4	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°	695.3	25.5
0°-40°	1137.8	41.8
0°-60°	2037.1	74.8
0°-90°	2724.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2724.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	898	898	898	898	898	
5°	896	896	891	896	896	85
15°	857	858	859	868	869	242
25°	782	785	794	810	814	360
35°	680	687	705	728	736	425
45°	559	571	600	633	644	431
55°	429	446	486	526	541	383
65°	290	314	365	411	428	288
75°	150	184	240	286	302	160
85°	31	61	85	96	99	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	898.4	898.4	898.4	898.4	898.4
2.5°	899.3	898.4	893.8	898.4	897.4
5°	896.5	895.6	891.1	896.5	896.5
7.5°	890.2	890.2	885.7	892.0	892.9
10°	881.2	881.2	878.5	885.7	885.7
12.5°	870.3	870.3	870.3	877.6	878.5
15°	856.8	857.7	858.6	867.6	869.4
17.5°	840.5	842.3	845.0	855.9	857.7
20°	823.3	825.1	829.7	842.3	845.0
22.5°	801.6	806.2	812.5	827.0	829.7
25°	781.8	785.4	794.4	809.8	814.3
27.5°	757.4	762.8	774.5	790.8	797.1
30°	733.0	738.4	752.8	771.8	777.2
32.5°	706.8	714.9	730.2	750.1	756.5
35°	679.6	686.9	704.9	728.4	735.7
37.5°	649.8	659.8	679.6	704.9	714.0
40°	620.9	631.7	654.3	681.4	692.3
42.5°	592.0	602.8	628.1	658.9	669.7
45°	559.4	571.2	600.1	632.6	644.4
47.5°	526.9	541.4	573.0	607.3	620.0
50°	493.5	509.7	544.1	580.2	594.7
52.5°	463.6	479.0	515.2	554.0	567.6
55°	429.3	446.5	486.2	526.0	541.4
57.5°	394.0	413.0	455.5	498.9	514.2
60°	359.7	380.5	427.5	470.9	488.0
62.5°	326.3	347.0	395.9	441.0	458.2
65°	290.1	314.5	365.1	411.2	427.5
67.5°	255.8	282.0	335.3	380.5	396.8
70°	222.3	247.6	304.6	348.9	365.1
72.5°	186.2	215.1	272.0	318.1	335.3
75°	150.0	184.4	240.4	285.6	301.9
77.5°	116.6	151.8	207.9	244.9	253.1
80°	85.9	122.0	170.8	197.0	207.0
82.5°	55.1	91.3	130.1	149.1	157.3
85°	30.7	60.6	85.0	95.8	99.4
87.5°	12.7	26.2	34.3	38.9	38.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)