

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: P310565

Luminaire Tested: **24FCZ2-30-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: P310565
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-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

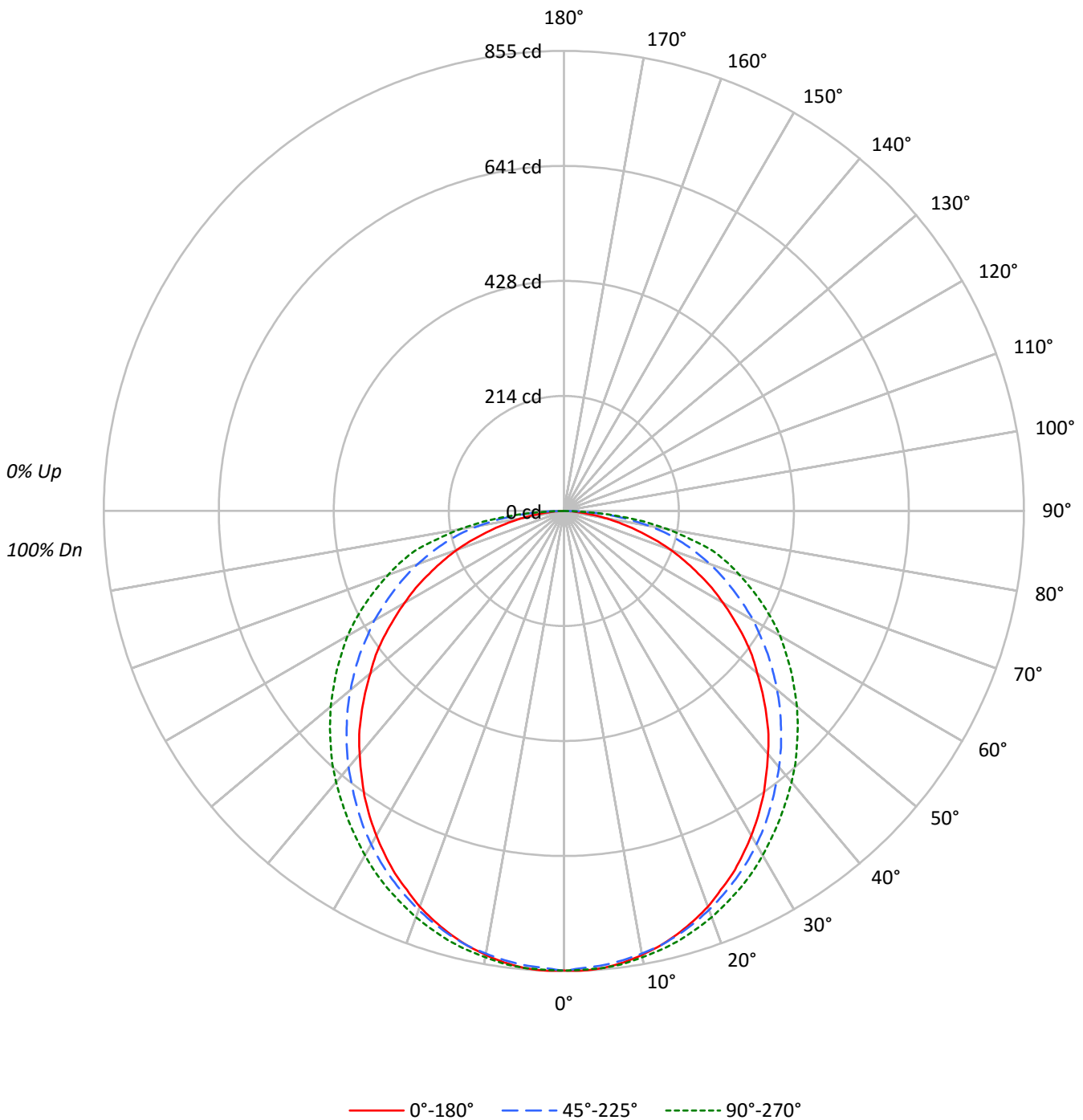
Lumens per Lamp: N/A
Luminaire Lumens: 2590.0 lumens
Efficiency: N/A
Efficacy: 109.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.7
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°	1149	1149	1149
5°	1151	1144	1151
10°	1145	1141	1151
15°	1135	1137	1152
20°	1121	1130	1150
25°	1103	1121	1149
30°	1083	1112	1148
35°	1061	1101	1149
40°	1037	1093	1156
45°	1012	1086	1166
50°	982	1083	1184
55°	958	1084	1207
60°	920	1094	1249
65°	878	1105	1294
70°	832	1139	1366
75°	741	1188	1492
80°	632	1258	1525
85°	451	1247	1459



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.8	3.1
10°-20°	231.1	8.9
20°-30°	349.1	13.5
30°-40°	420.8	16.2
40°-50°	441.7	17.1
50°-60°	413.3	16.0
60°-70°	341.3	13.2
70°-80°	232.6	9.0
80°-90°	79.3	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°	661.1	25.5
0°-40°	1081.9	41.8
0°-60°	1936.9	74.8
0°-90°	2590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2590.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	854	854	854	854	854	
5°	852	852	847	852	852	81
15°	815	816	816	825	827	230
25°	743	747	755	770	774	342
35°	646	653	670	693	700	404
45°	532	543	571	602	613	410
55°	408	424	462	500	515	364
65°	276	299	347	391	406	274
75°	143	175	229	272	287	152
85°	29	58	81	91	94	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	854.2	854.2	854.2	854.2	854.2
2.5°	855.0	854.2	849.9	854.2	853.3
5°	852.4	851.6	847.3	852.4	852.4
7.5°	846.4	846.4	842.1	848.1	849.0
10°	837.8	837.8	835.3	842.1	842.1
12.5°	827.5	827.5	827.5	834.4	835.3
15°	814.6	815.5	816.3	824.9	826.7
17.5°	799.2	800.9	803.5	813.8	815.5
20°	782.8	784.6	788.9	800.9	803.5
22.5°	762.2	766.5	772.5	786.3	788.9
25°	743.3	746.7	755.3	769.9	774.2
27.5°	720.1	725.3	736.4	751.9	757.9
30°	696.9	702.1	715.8	733.9	739.0
32.5°	672.0	679.7	694.3	713.2	719.2
35°	646.2	653.1	670.3	692.6	699.5
37.5°	617.8	627.3	646.2	670.3	678.9
40°	590.3	600.7	622.1	647.9	658.2
42.5°	562.9	573.2	597.2	626.4	636.8
45°	531.9	543.1	570.6	601.5	612.7
47.5°	501.0	514.7	544.8	577.5	589.5
50°	469.2	484.7	517.3	551.7	565.4
52.5°	440.8	455.4	489.8	526.8	539.7
55°	408.2	424.5	462.3	500.1	514.7
57.5°	374.7	392.7	433.1	474.3	489.0
60°	342.0	361.8	406.5	447.7	464.0
62.5°	310.2	330.0	376.4	419.3	435.7
65°	275.8	299.0	347.2	391.0	406.5
67.5°	243.2	268.1	318.8	361.8	377.2
70°	211.4	235.5	289.6	331.7	347.2
72.5°	177.0	204.5	258.7	302.5	318.8
75°	142.6	175.3	228.6	271.5	287.0
77.5°	110.9	144.4	197.6	232.9	240.6
80°	81.6	116.0	162.4	187.3	196.8
82.5°	52.4	86.8	123.7	141.8	149.5
85°	29.2	57.6	80.8	91.1	94.5
87.5°	12.0	24.9	32.7	37.0	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)