

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: P313881

Luminaire Tested: **24FCZ2-35-UNV-L83050-CP187-W2A-U-3500K**

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: P313881
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: 24FCZ2-35-UNV-L83050-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3500K 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: 3043.0 lumens
Efficiency: N/A
Efficacy: 108.7 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

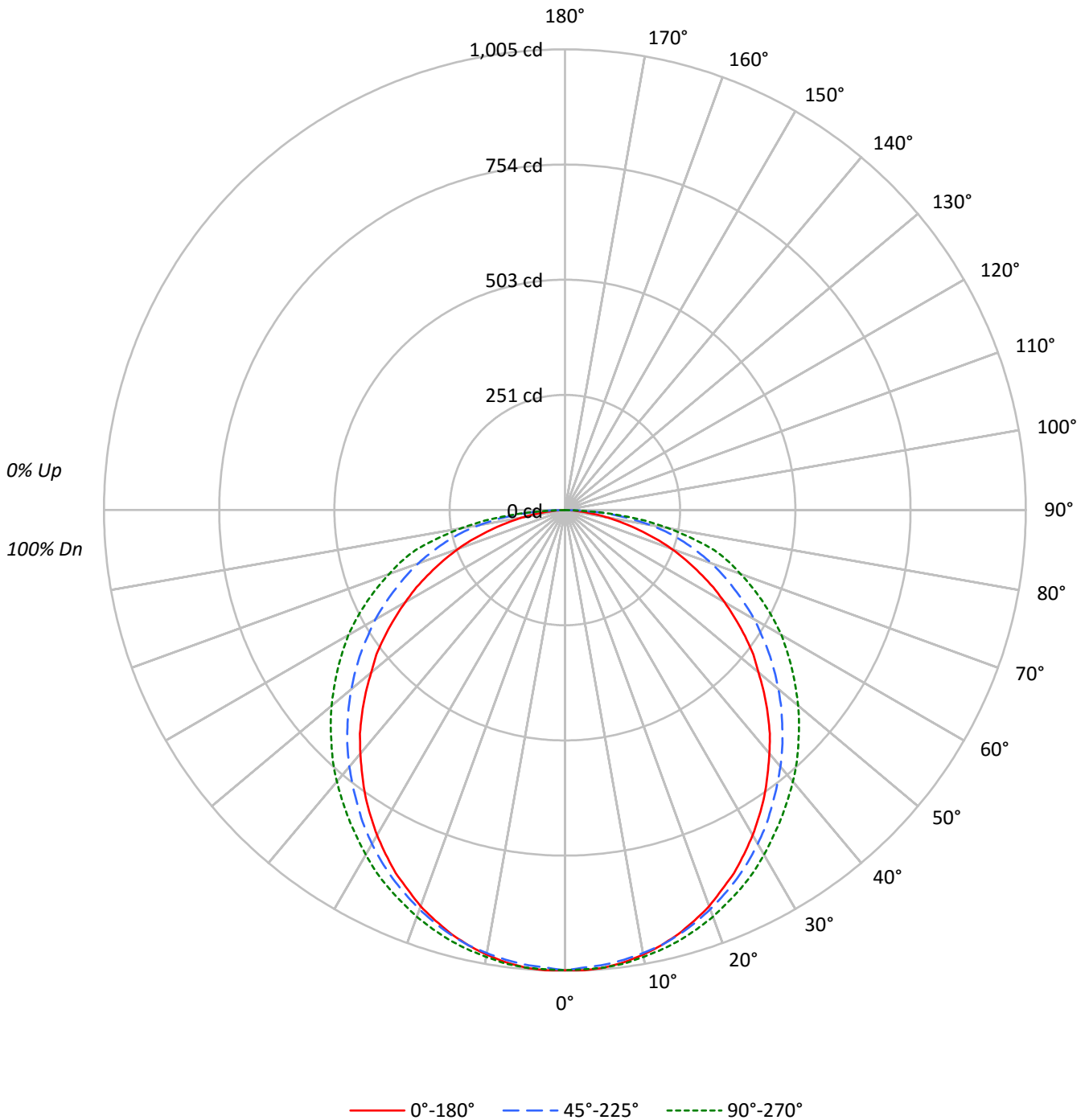
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1350	1350	1350
5°	1353	1345	1353
10°	1345	1341	1352
15°	1333	1336	1353
20°	1317	1327	1352
25°	1296	1317	1351
30°	1272	1307	1349
35°	1247	1293	1350
40°	1218	1284	1358
45°	1189	1276	1370
50°	1154	1272	1391
55°	1125	1274	1419
60°	1081	1285	1467
65°	1032	1299	1520
70°	977	1338	1605
75°	871	1396	1753
80°	743	1478	1791
85°	530	1465	1715



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.0	3.1
10°-20°	271.6	8.9
20°-30°	410.2	13.5
30°-40°	494.4	16.2
40°-50°	519.0	17.1
50°-60°	485.5	16.0
60°-70°	401.0	13.2
70°-80°	273.2	9.0
80°-90°	93.2	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°	776.7	25.5
0°-40°	1271.1	41.8
0°-60°	2275.6	74.8
0°-90°	3043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1004	1004	1004	1004	1004	
5°	1002	1000	996	1002	1002	95
15°	957	958	959	969	971	270
25°	873	877	887	905	910	402
35°	759	767	788	814	822	474
45°	625	638	670	707	720	482
55°	480	499	543	588	605	428
65°	324	351	408	459	478	321
75°	168	206	269	319	337	179
85°	34	68	95	107	111	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1003.6	1003.6	1003.6	1003.6	1003.6
2.5°	1004.6	1003.6	998.5	1003.6	1002.5
5°	1001.5	1000.5	995.5	1001.5	1001.5
7.5°	994.5	994.5	989.4	996.5	997.5
10°	984.4	984.4	981.3	989.4	989.4
12.5°	972.3	972.3	972.3	980.3	981.3
15°	957.1	958.1	959.1	969.2	971.2
17.5°	938.9	941.0	944.0	956.1	958.1
20°	919.8	921.8	926.8	941.0	944.0
22.5°	895.5	900.6	907.6	923.8	926.8
25°	873.3	877.4	887.4	904.6	909.7
27.5°	846.1	852.1	865.2	883.4	890.5
30°	818.8	824.9	841.0	862.2	868.3
32.5°	789.5	798.6	815.8	838.0	845.0
35°	759.2	767.3	787.5	813.7	821.8
37.5°	725.9	737.0	759.2	787.5	797.6
40°	693.6	705.7	731.0	761.2	773.4
42.5°	661.3	673.4	701.7	736.0	748.1
45°	625.0	638.1	670.4	706.7	719.9
47.5°	588.6	604.8	640.1	678.5	692.6
50°	551.2	569.4	607.8	648.2	664.3
52.5°	517.9	535.1	575.5	618.9	634.0
55°	479.6	498.7	543.2	587.6	604.8
57.5°	440.2	461.4	508.8	557.3	574.5
60°	401.8	425.0	477.5	526.0	545.2
62.5°	364.5	387.7	442.2	492.7	511.9
65°	324.1	351.3	407.9	459.4	477.5
67.5°	285.7	315.0	374.6	425.0	443.2
70°	248.4	276.6	340.2	389.7	407.9
72.5°	208.0	240.3	303.9	355.4	374.6
75°	167.6	206.0	268.6	319.0	337.2
77.5°	130.2	169.6	232.2	273.6	282.7
80°	95.9	136.3	190.8	220.1	231.2
82.5°	61.6	102.0	145.4	166.6	175.7
85°	34.3	67.6	94.9	107.0	111.1
87.5°	14.1	29.3	38.4	43.4	43.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)