

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: P310655

Luminaire Tested: **24FCZ2-35-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: P310655
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-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

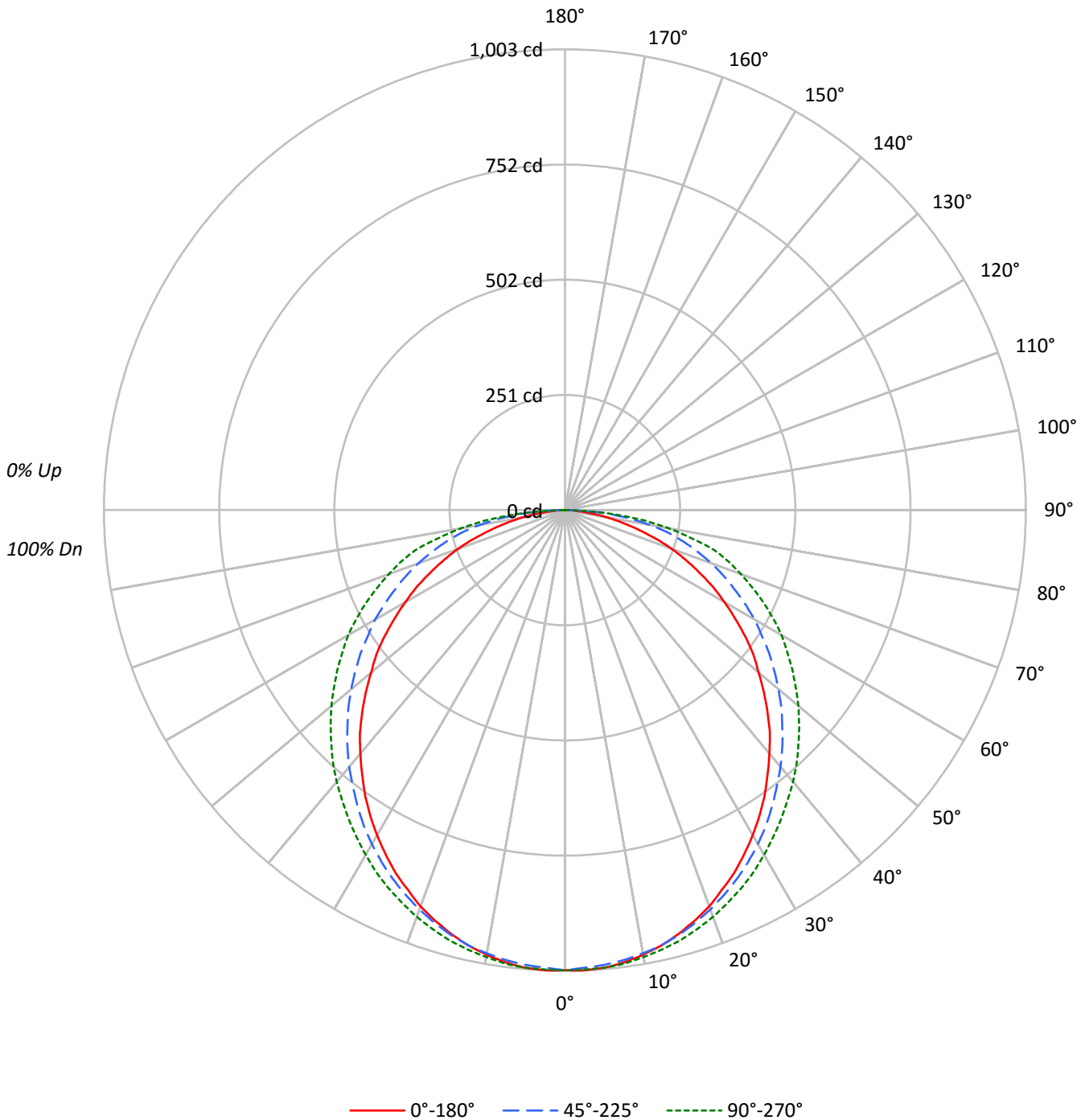
Lumens per Lamp: N/A
Luminaire Lumens: 3038.0 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28.3
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°	1348	1348	1348
5°	1350	1342	1350
10°	1343	1339	1350
15°	1331	1334	1351
20°	1315	1325	1349
25°	1294	1315	1348
30°	1270	1304	1347
35°	1245	1291	1348
40°	1216	1282	1356
45°	1187	1274	1368
50°	1152	1270	1388
55°	1123	1272	1416
60°	1080	1283	1465
65°	1030	1296	1518
70°	976	1336	1602
75°	870	1394	1750
80°	742	1476	1788
85°	530	1462	1712



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.8	3.1
10°-20°	271.1	8.9
20°-30°	409.5	13.5
30°-40°	493.5	16.2
40°-50°	518.1	17.1
50°-60°	484.7	16.0
60°-70°	400.3	13.2
70°-80°	272.8	9.0
80°-90°	93.0	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°	775.4	25.5
0°-40°	1269.0	41.8
0°-60°	2271.9	74.8
0°-90°	3038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3038.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1002	1002	1002	1002	1002	
5°	1000	999	994	1000	1000	95
15°	956	956	958	968	970	269
25°	872	876	886	903	908	401
35°	758	766	786	812	820	474
45°	624	637	669	706	719	481
55°	479	498	542	587	604	427
65°	324	351	407	459	477	321
75°	167	206	268	318	337	178
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°	1001.9	1001.9	1001.9	1001.9	1001.9
2.5°	1002.9	1001.9	996.9	1001.9	1000.9
5°	999.9	998.9	993.8	999.9	999.9
7.5°	992.8	992.8	987.8	994.9	995.9
10°	982.8	982.8	979.7	987.8	987.8
12.5°	970.7	970.7	970.7	978.7	979.7
15°	955.5	956.5	957.6	967.6	969.7
17.5°	937.4	939.4	942.4	954.5	956.5
20°	918.2	920.3	925.3	939.4	942.4
22.5°	894.1	899.1	906.2	922.3	925.3
25°	871.9	875.9	886.0	903.1	908.2
27.5°	844.7	850.7	863.8	882.0	889.0
30°	817.5	823.5	839.6	860.8	866.8
32.5°	788.2	797.3	814.4	836.6	843.7
35°	758.0	766.0	786.2	812.4	820.5
37.5°	724.7	735.8	758.0	786.2	796.3
40°	692.5	704.6	729.8	760.0	772.1
42.5°	660.2	672.3	700.5	734.8	746.9
45°	623.9	637.0	669.3	705.6	718.7
47.5°	587.6	603.8	639.0	677.3	691.5
50°	550.3	568.5	606.8	647.1	663.2
52.5°	517.1	534.2	574.5	617.9	633.0
55°	478.8	497.9	542.3	586.6	603.8
57.5°	439.5	460.6	508.0	556.4	573.5
60°	401.2	424.3	476.8	525.1	544.3
62.5°	363.9	387.1	441.5	491.9	511.0
65°	323.6	350.8	407.2	458.6	476.8
67.5°	285.3	314.5	374.0	424.3	442.5
70°	248.0	276.2	339.7	389.1	407.2
72.5°	207.6	239.9	303.4	354.8	374.0
75°	167.3	205.6	268.1	318.5	336.7
77.5°	130.0	169.3	231.8	273.2	282.2
80°	95.8	136.1	190.5	219.7	230.8
82.5°	61.5	101.8	145.1	166.3	175.4
85°	34.3	67.5	94.7	106.8	110.9
87.5°	14.1	29.2	38.3	43.3	43.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)