

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: P313882

Luminaire Tested: **24FCZ2-35-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: P313882
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-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: 3195.0 lumens
Efficiency: N/A
Efficacy: 111.7 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

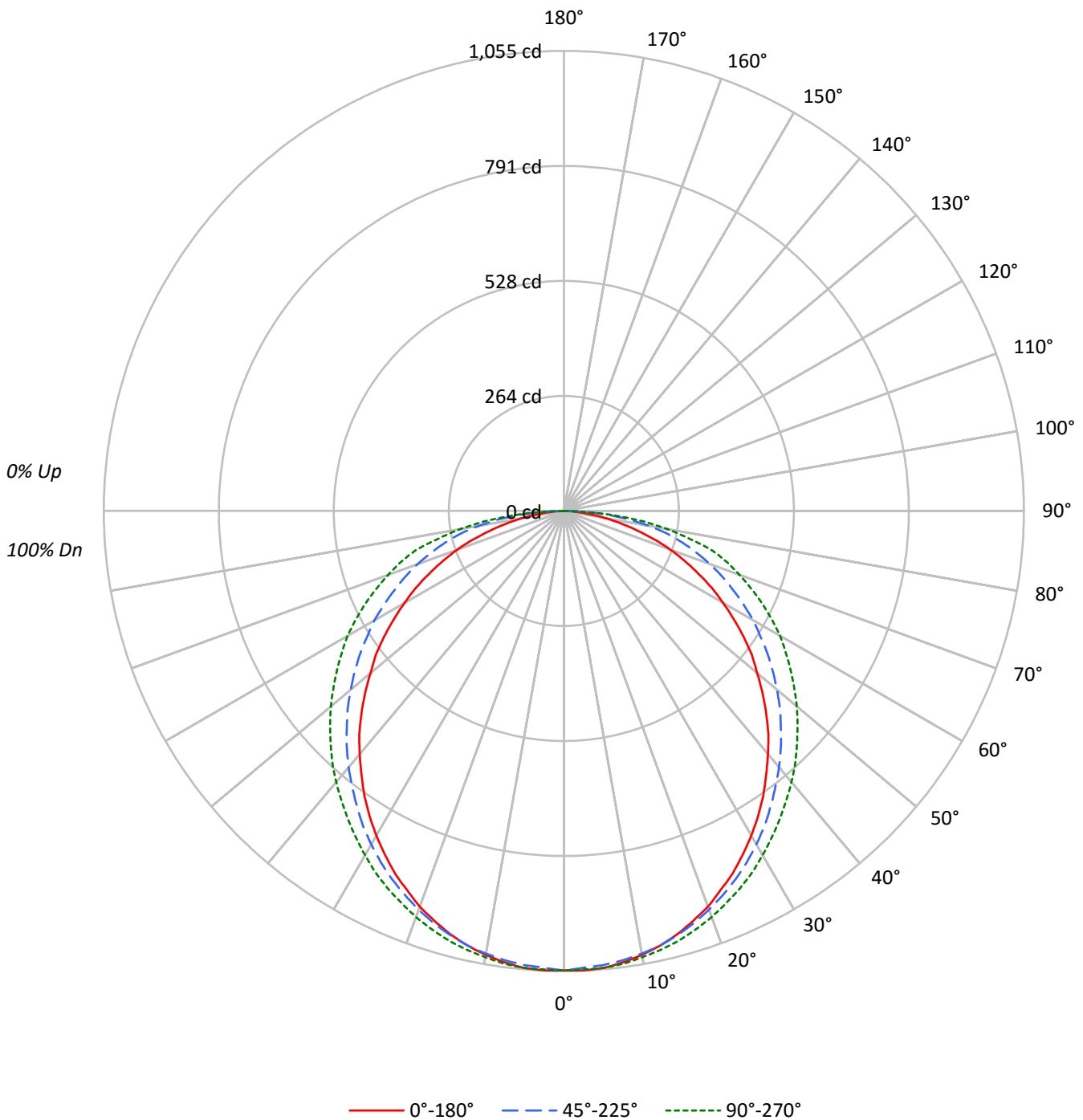
Input Watts (W): 28.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1418	1418	1418
5°	1420	1412	1420
10°	1412	1408	1419
15°	1400	1403	1421
20°	1383	1393	1419
25°	1361	1383	1418
30°	1336	1372	1416
35°	1309	1358	1417
40°	1279	1348	1426
45°	1249	1339	1438
50°	1212	1336	1460
55°	1181	1338	1490
60°	1135	1349	1540
65°	1083	1364	1596
70°	1026	1405	1685
75°	915	1466	1841
80°	780	1552	1881
85°	556	1538	1800



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.7	3.1
10°-20°	285.1	8.9
20°-30°	430.7	13.5
30°-40°	519.1	16.2
40°-50°	544.9	17.1
50°-60°	509.8	16.0
60°-70°	421.0	13.2
70°-80°	286.9	9.0
80°-90°	97.8	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°	815.5	25.5
0°-40°	1334.6	41.8
0°-60°	2389.3	74.8
0°-90°	3195.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3195.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1054	1054	1054	1054	1054	
5°	1052	1050	1045	1052	1052	100
15°	1005	1006	1007	1018	1020	283
25°	917	921	932	950	955	422
35°	797	806	827	854	863	498
45°	656	670	704	742	756	506
55°	504	524	570	617	635	449
65°	340	369	428	482	501	338
75°	176	216	282	335	354	188
85°	36	71	100	112	117	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1053.7	1053.7	1053.7	1053.7	1053.7
2.5°	1054.7	1053.7	1048.4	1053.7	1052.6
5°	1051.6	1050.5	1045.2	1051.6	1051.6
7.5°	1044.1	1044.1	1038.8	1046.3	1047.3
10°	1033.5	1033.5	1030.4	1038.8	1038.8
12.5°	1020.8	1020.8	1020.8	1029.3	1030.4
15°	1004.9	1006.0	1007.0	1017.6	1019.8
17.5°	985.8	988.0	991.1	1003.9	1006.0
20°	965.7	967.8	973.1	988.0	991.1
22.5°	940.3	945.6	953.0	969.9	973.1
25°	916.9	921.2	931.8	949.8	955.1
27.5°	888.3	894.7	908.5	927.5	935.0
30°	859.7	866.1	883.0	905.3	911.6
32.5°	829.0	838.5	856.5	879.8	887.3
35°	797.2	805.6	826.8	854.4	862.9
37.5°	762.2	773.8	797.2	826.8	837.4
40°	728.2	741.0	767.5	799.3	812.0
42.5°	694.3	707.0	736.7	772.8	785.5
45°	656.2	669.9	703.9	742.0	755.8
47.5°	618.0	635.0	672.1	712.3	727.2
50°	578.8	597.9	638.1	680.5	697.5
52.5°	543.8	561.8	604.2	649.8	665.7
55°	503.5	523.7	570.3	616.9	635.0
57.5°	462.2	484.4	534.3	585.1	603.2
60°	421.9	446.3	501.4	552.3	572.4
62.5°	382.7	407.1	464.3	517.3	537.4
65°	340.3	368.9	428.3	482.3	501.4
67.5°	300.0	330.7	393.3	446.3	465.4
70°	260.8	290.5	357.2	409.2	428.3
72.5°	218.4	252.3	319.1	373.1	393.3
75°	176.0	216.2	282.0	335.0	354.1
77.5°	136.7	178.1	243.8	287.3	296.8
80°	100.7	143.1	200.3	231.1	242.7
82.5°	64.7	107.1	152.6	174.9	184.4
85°	36.0	71.0	99.6	112.4	116.6
87.5°	14.8	30.7	40.3	45.6	45.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)