

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: P313982

Luminaire Tested: **24FCZ2-45-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: P313982
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: 24FCZ2-45-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: 4071.0 lumens
Efficiency: N/A
Efficacy: 105.7 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

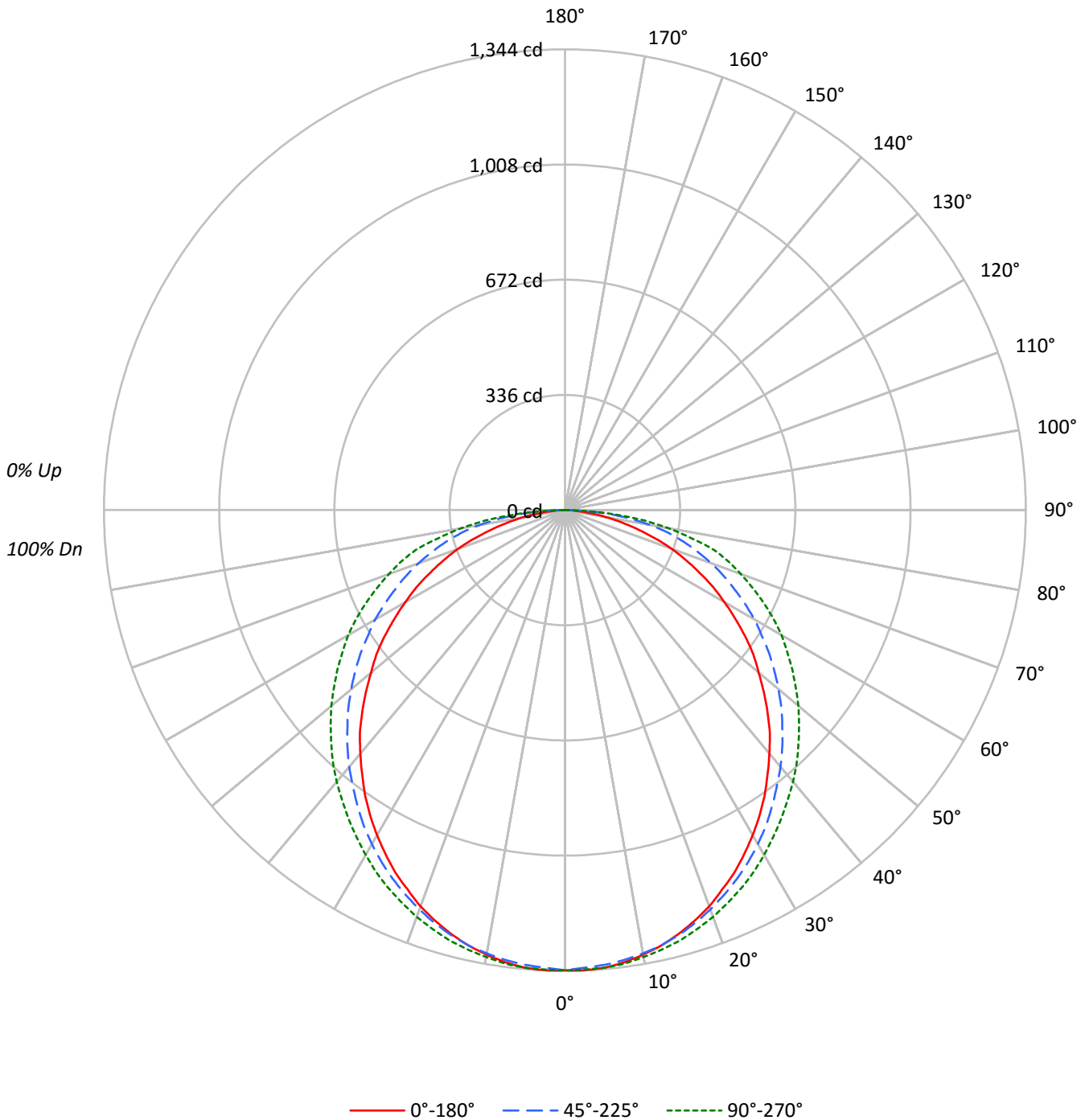
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1806	1806	1806
5°	1810	1799	1810
10°	1799	1794	1808
15°	1784	1787	1810
20°	1762	1775	1808
25°	1734	1763	1807
30°	1702	1748	1805
35°	1668	1730	1806
40°	1630	1718	1817
45°	1591	1707	1832
50°	1544	1702	1860
55°	1505	1705	1898
60°	1447	1719	1963
65°	1380	1737	2034
70°	1307	1791	2147
75°	1166	1868	2345
80°	994	1978	2397
85°	709	1961	2294



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.1	3.1
10°-20°	363.3	8.9
20°-30°	548.7	13.5
30°-40°	661.4	16.2
40°-50°	694.3	17.1
50°-60°	649.6	16.0
60°-70°	536.4	13.2
70°-80°	365.5	9.0
80°-90°	124.7	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°	1039.1	25.5
0°-40°	1700.5	41.8
0°-60°	3044.4	74.8
0°-90°	4071.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4071.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1343	1343	1343	1343	1343	
5°	1340	1338	1332	1340	1340	127
15°	1280	1282	1283	1297	1299	361
25°	1168	1174	1187	1210	1217	538
35°	1016	1026	1054	1089	1100	635
45°	836	854	897	946	963	645
55°	642	667	727	786	809	573
65°	434	470	546	615	639	430
75°	224	276	359	427	451	239
85°	46	90	127	143	149	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1342.6	1342.6	1342.6	1342.6	1342.6
2.5°	1343.9	1342.6	1335.8	1342.6	1341.2
5°	1339.9	1338.5	1331.8	1339.9	1339.9
7.5°	1330.4	1330.4	1323.7	1333.1	1334.5
10°	1316.9	1316.9	1312.9	1323.7	1323.7
12.5°	1300.7	1300.7	1300.7	1311.5	1312.9
15°	1280.4	1281.8	1283.2	1296.7	1299.4
17.5°	1256.1	1258.8	1262.9	1279.1	1281.8
20°	1230.5	1233.2	1239.9	1258.8	1262.9
22.5°	1198.1	1204.8	1214.3	1235.9	1239.9
25°	1168.3	1173.7	1187.3	1210.2	1217.0
27.5°	1131.9	1140.0	1157.5	1181.8	1191.3
30°	1095.4	1103.5	1125.1	1153.5	1161.6
32.5°	1056.2	1068.4	1091.4	1121.1	1130.5
35°	1015.7	1026.5	1053.5	1088.7	1099.5
37.5°	971.1	986.0	1015.7	1053.5	1067.0
40°	927.9	944.1	977.9	1018.4	1034.6
42.5°	884.7	900.9	938.7	984.6	1000.9
45°	836.1	853.6	896.9	945.5	963.0
47.5°	787.4	809.1	856.3	907.7	926.6
50°	737.5	761.8	813.1	867.1	888.8
52.5°	692.9	715.9	769.9	828.0	848.2
55°	641.6	667.2	726.7	786.1	809.1
57.5°	588.9	617.3	680.7	745.6	768.5
60°	537.6	568.6	638.9	703.7	729.4
62.5°	487.6	518.7	591.6	659.1	684.8
65°	433.6	470.0	545.7	614.6	638.9
67.5°	382.2	421.4	501.1	568.6	593.0
70°	332.3	370.1	455.2	521.4	545.7
72.5°	278.2	321.5	406.6	475.4	501.1
75°	224.2	275.5	359.3	426.8	451.1
77.5°	174.2	226.9	310.7	366.0	378.2
80°	128.3	182.3	255.3	294.4	309.3
82.5°	82.4	136.4	194.5	222.9	235.0
85°	45.9	90.5	127.0	143.2	148.6
87.5°	18.9	39.2	51.3	58.1	58.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)