

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: P313981

Luminaire Tested: **24FCZ2-45-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: P313981
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-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

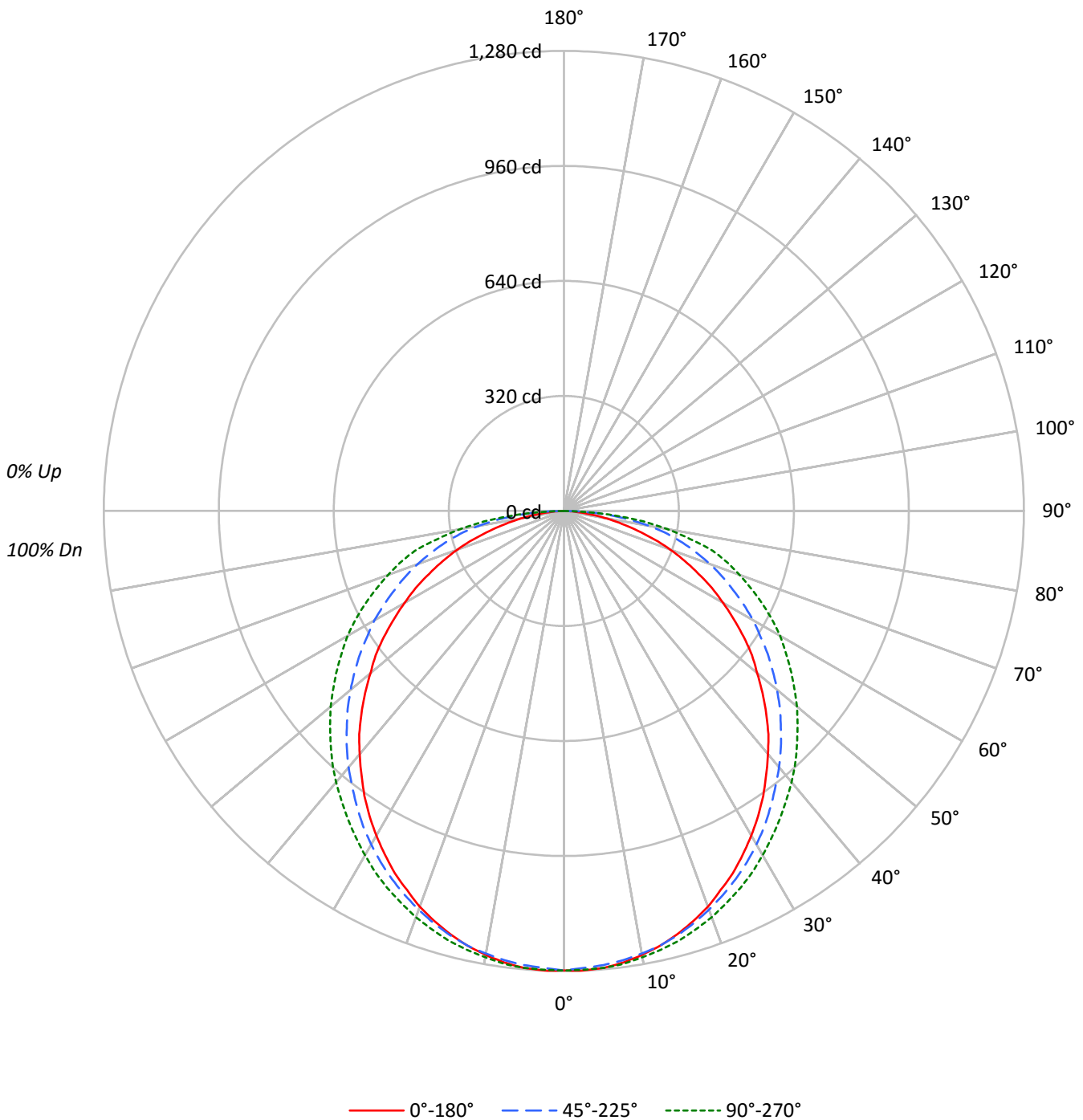
Lumens per Lamp: N/A
Luminaire Lumens: 3877.0 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 37.6
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°	1720	1720	1720
5°	1723	1713	1723
10°	1714	1708	1722
15°	1699	1702	1724
20°	1678	1691	1722
25°	1652	1679	1721
30°	1621	1665	1719
35°	1589	1648	1720
40°	1552	1636	1731
45°	1515	1625	1745
50°	1470	1621	1772
55°	1433	1623	1807
60°	1378	1637	1869
65°	1315	1655	1937
70°	1245	1705	2044
75°	1110	1779	2233
80°	947	1884	2283
85°	675	1866	2184



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.0	3.1
10°-20°	346.0	8.9
20°-30°	522.6	13.5
30°-40°	629.8	16.2
40°-50°	661.2	17.1
50°-60°	618.6	16.0
60°-70°	510.9	13.2
70°-80°	348.1	9.0
80°-90°	118.7	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°	989.6	25.5
0°-40°	1619.4	41.8
0°-60°	2899.3	74.8
0°-90°	3877.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3877.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1279	1279	1279	1279	1279	
5°	1276	1275	1268	1276	1276	121
15°	1219	1221	1222	1235	1237	344
25°	1113	1118	1131	1152	1159	512
35°	967	978	1003	1037	1047	604
45°	796	813	854	900	917	614
55°	611	635	692	749	770	545
65°	413	448	520	585	608	410
75°	214	262	342	406	430	228
85°	44	86	121	136	142	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1278.6	1278.6	1278.6	1278.6	1278.6
2.5°	1279.9	1278.6	1272.2	1278.6	1277.3
5°	1276.0	1274.7	1268.3	1276.0	1276.0
7.5°	1267.0	1267.0	1260.6	1269.6	1270.9
10°	1254.2	1254.2	1250.3	1260.6	1260.6
12.5°	1238.7	1238.7	1238.7	1249.0	1250.3
15°	1219.4	1220.7	1222.0	1234.9	1237.4
17.5°	1196.3	1198.8	1202.7	1218.1	1220.7
20°	1171.8	1174.4	1180.8	1198.8	1202.7
22.5°	1141.0	1147.4	1156.4	1177.0	1180.8
25°	1112.7	1117.8	1130.7	1152.5	1159.0
27.5°	1077.9	1085.7	1102.4	1125.5	1134.5
30°	1043.2	1050.9	1071.5	1098.5	1106.2
32.5°	1005.9	1017.5	1039.3	1067.6	1076.6
35°	967.3	977.6	1003.3	1036.8	1047.1
37.5°	924.9	939.0	967.3	1003.3	1016.2
40°	883.7	899.1	931.3	969.9	985.3
42.5°	842.5	858.0	894.0	937.7	953.2
45°	796.2	813.0	854.1	900.4	917.1
47.5°	749.9	770.5	815.5	864.4	882.4
50°	702.3	725.5	774.4	825.8	846.4
52.5°	659.9	681.7	733.2	788.5	807.8
55°	611.0	635.4	692.0	748.6	770.5
57.5°	560.8	587.8	648.3	710.0	731.9
60°	512.0	541.5	608.4	670.2	694.6
62.5°	464.4	493.9	563.4	627.7	652.2
65°	412.9	447.6	519.7	585.3	608.4
67.5°	364.0	401.3	477.2	541.5	564.7
70°	316.4	352.5	433.5	496.5	519.7
72.5°	265.0	306.1	387.2	452.8	477.2
75°	213.5	262.4	342.2	406.5	429.6
77.5°	165.9	216.1	295.9	348.6	360.2
80°	122.2	173.7	243.1	280.4	294.6
82.5°	78.5	129.9	185.2	212.2	223.8
85°	43.7	86.2	120.9	136.3	141.5
87.5°	18.0	37.3	48.9	55.3	55.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)