

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: P311422

Luminaire Tested: **24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5000K**

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: P311422
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 3747.0 lumens
Efficiency: N/A
Efficacy: 111.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

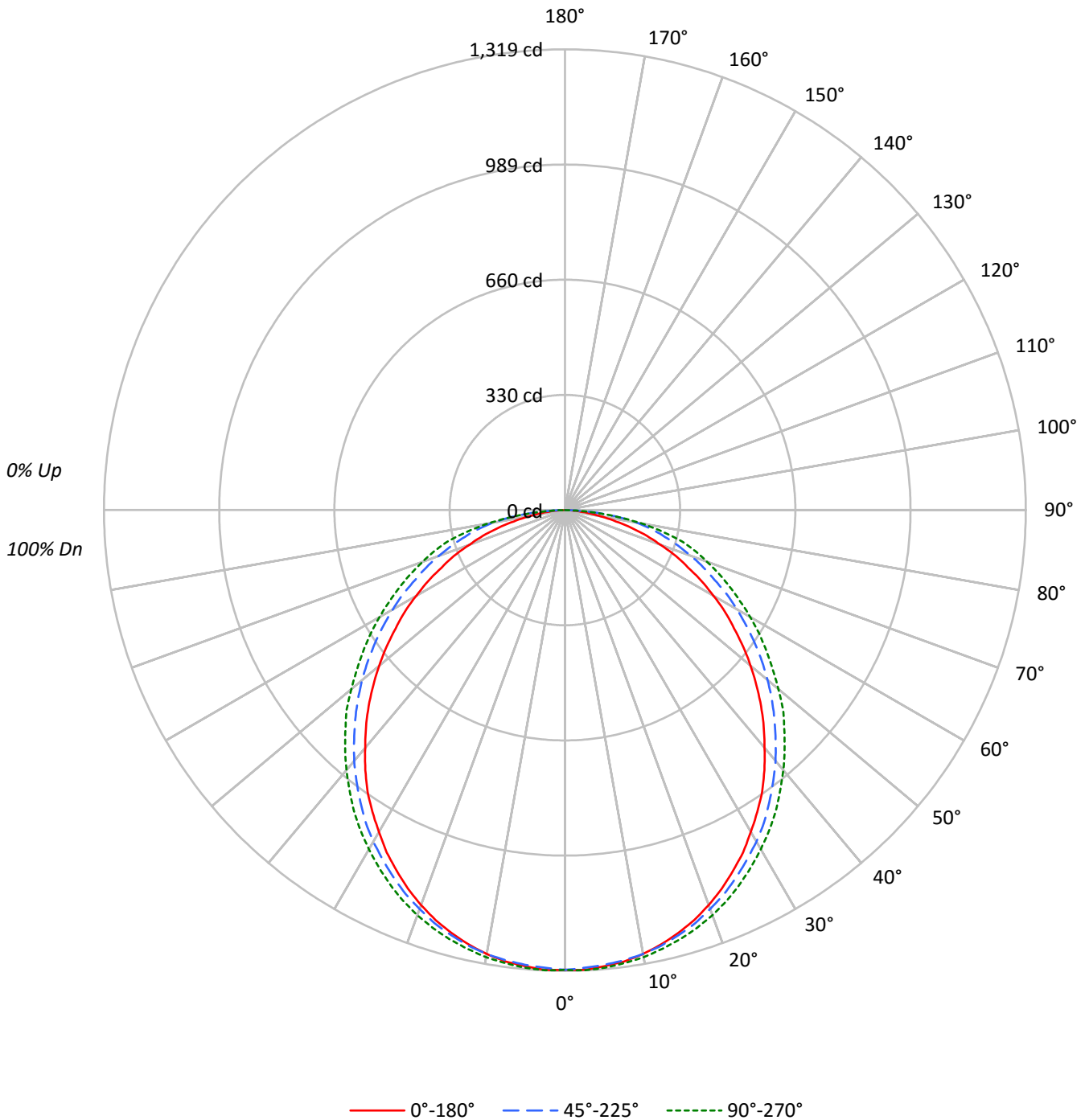
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311422

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P311422

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5000K

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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1771	1771	1771
5°	1770	1765	1776
10°	1763	1763	1776
15°	1746	1754	1772
20°	1723	1740	1767
25°	1691	1723	1756
30°	1653	1703	1742
35°	1617	1675	1728
40°	1562	1647	1708
45°	1511	1615	1690
50°	1452	1585	1669
55°	1388	1555	1653
60°	1323	1531	1649
65°	1239	1504	1660
70°	1147	1512	1704
75°	1027	1541	1800
80°	830	1633	1761
85°	625	1433	1397



TEST NUMBER: P311422

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.6	3.3
10°-20°	356.1	9.5
20°-30°	535.3	14.3
30°-40°	637.6	17.0
40°-50°	652.6	17.4
50°-60°	587.5	15.7
60°-70°	461.4	12.3
70°-80°	299.4	8.0
80°-90°	92.6	2.5
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°	1016.0	27.1
0°-40°	1653.6	44.1
0°-60°	2893.6	77.2
0°-90°	3747.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3747.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1316	1316	1316	1316	1316	
5°	1310	1313	1307	1314	1315	125
15°	1253	1257	1259	1270	1272	353
25°	1139	1148	1160	1180	1183	525
35°	984	996	1020	1045	1052	614
45°	794	813	849	881	888	612
55°	592	618	663	697	705	530
65°	389	419	472	512	521	387
75°	198	236	296	337	346	209
85°	40	75	93	90	90	49
90°	0	0	0	0	0	



TEST NUMBER: P311422

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-S-CP187-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1316.3	1316.3	1316.3	1316.3	1316.3
2.5°	1317.5	1317.5	1311.6	1317.5	1318.7
5°	1310.4	1312.8	1306.8	1314.0	1315.2
7.5°	1303.3	1303.3	1299.7	1306.8	1308.0
10°	1290.2	1291.4	1290.2	1298.5	1299.7
12.5°	1273.5	1275.9	1277.1	1285.4	1286.6
15°	1253.3	1256.8	1259.2	1269.9	1272.3
17.5°	1230.7	1234.2	1240.2	1252.1	1254.5
20°	1203.3	1208.0	1215.2	1230.7	1234.2
22.5°	1173.5	1178.3	1190.2	1204.5	1210.4
25°	1139.0	1148.5	1160.4	1179.5	1183.0
27.5°	1104.5	1112.8	1128.3	1148.5	1153.3
30°	1064.0	1077.1	1096.2	1116.4	1121.2
32.5°	1024.8	1037.8	1060.5	1081.9	1087.8
35°	984.3	996.2	1020.0	1045.0	1052.1
37.5°	937.9	953.3	979.5	1004.5	1011.7
40°	889.1	908.1	937.9	964.1	972.4
42.5°	842.7	862.9	892.6	921.2	930.7
45°	793.9	812.9	848.6	880.7	887.9
47.5°	743.9	765.3	803.4	835.5	847.4
50°	693.9	716.5	757.0	790.3	797.4
52.5°	643.9	667.7	710.5	746.2	749.8
55°	591.5	617.7	662.9	697.4	704.6
57.5°	543.9	566.5	615.3	651.0	659.4
60°	491.5	516.5	568.9	602.2	612.9
62.5°	441.6	467.7	522.5	555.8	565.3
65°	389.2	418.9	472.5	511.8	521.3
67.5°	344.0	372.5	429.7	467.7	477.3
70°	291.6	323.7	384.4	423.7	433.2
72.5°	246.4	279.7	340.4	378.5	392.8
75°	197.6	235.7	296.4	336.8	346.3
77.5°	150.0	194.0	255.9	286.8	286.8
80°	107.1	153.5	210.7	224.9	227.3
82.5°	70.2	115.4	155.9	154.7	154.7
85°	40.5	75.0	92.8	90.5	90.5
87.5°	15.5	30.9	33.3	33.3	32.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)