

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: P311332

Luminaire Tested: **24FCZ2-35-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: P311332
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: 24FCZ2-35-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: 3292.0 lumens
Efficiency: N/A
Efficacy: 114.7 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

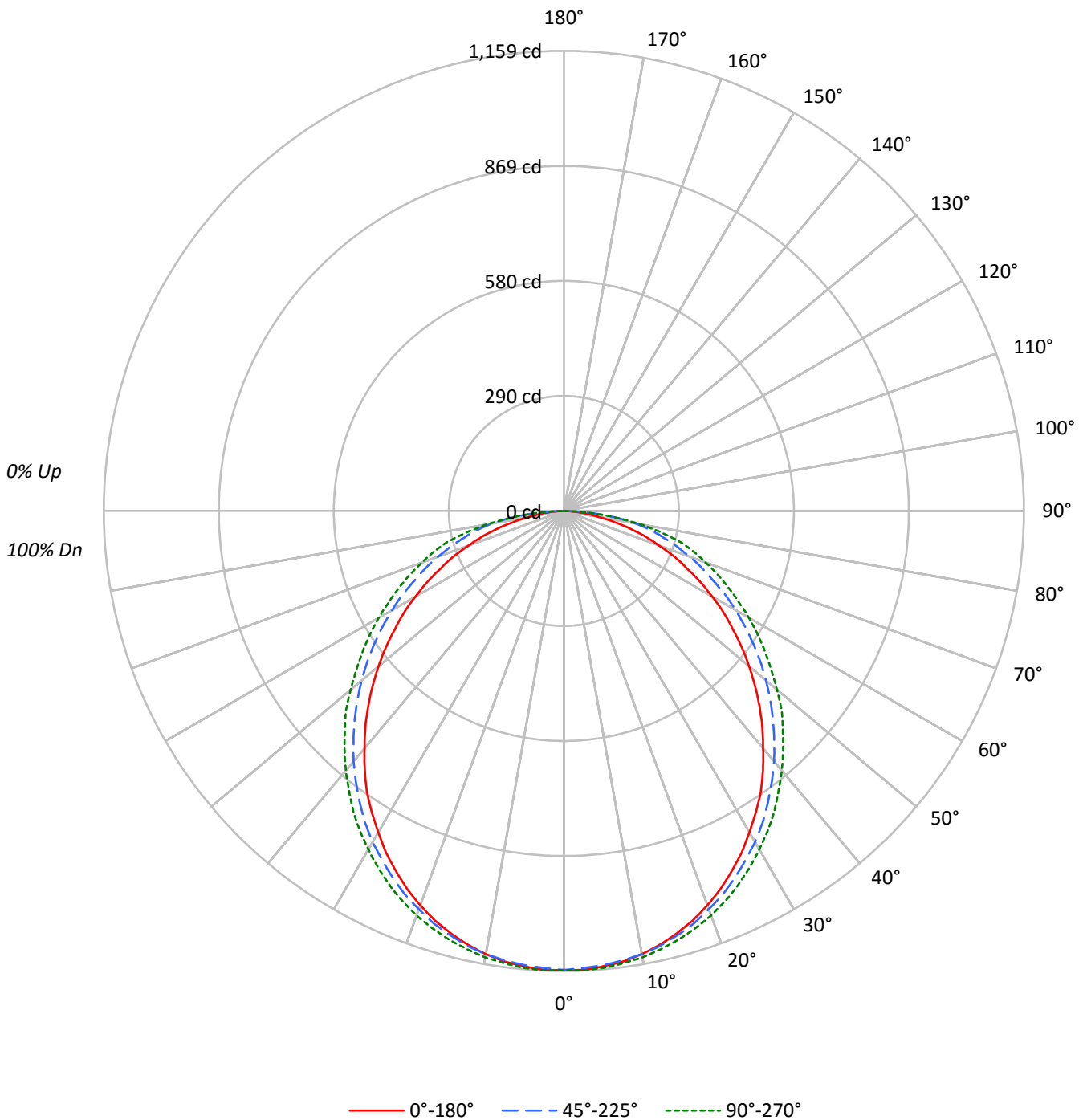
Input Watts (W): 28.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311332

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-S-CP187-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P311332

CATALOG NUMBER: 24FCZ2-35-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°	1556	1556	1556
5°	1555	1551	1561
10°	1549	1549	1560
15°	1534	1541	1557
20°	1514	1529	1553
25°	1486	1514	1543
30°	1452	1496	1530
35°	1420	1472	1518
40°	1372	1447	1501
45°	1327	1419	1484
50°	1276	1392	1467
55°	1219	1366	1452
60°	1162	1345	1449
65°	1089	1322	1458
70°	1008	1328	1497
75°	902	1354	1582
80°	729	1434	1547
85°	550	1260	1227



TEST NUMBER: P311332

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-S-CP187-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	3.3
10°-20°	312.8	9.5
20°-30°	470.3	14.3
30°-40°	560.2	17.0
40°-50°	573.3	17.4
50°-60°	516.1	15.7
60°-70°	405.3	12.3
70°-80°	263.1	8.0
80°-90°	81.4	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°	892.6	27.1
0°-40°	1452.8	44.1
0°-60°	2542.2	77.2
0°-90°	3292.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3292.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1156	1156	1156	1156	1156	
5°	1151	1153	1148	1154	1156	109
15°	1101	1104	1106	1116	1118	310
25°	1001	1009	1020	1036	1039	461
35°	865	875	896	918	924	539
45°	698	714	746	774	780	538
55°	520	543	582	613	619	466
65°	342	368	415	450	458	340
75°	174	207	260	296	304	184
85°	36	66	82	80	80	43
90°	0	0	0	0	0	



TEST NUMBER: P311332

CATALOG NUMBER: 24FCZ2-35-UNV-L82765-S-CP187-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1156.5	1156.5	1156.5	1156.5	1156.5
2.5°	1157.5	1157.5	1152.3	1157.5	1158.6
5°	1151.3	1153.4	1148.1	1154.4	1155.5
7.5°	1145.0	1145.0	1141.9	1148.1	1149.2
10°	1133.5	1134.5	1133.5	1140.8	1141.9
12.5°	1118.9	1120.9	1122.0	1129.3	1130.4
15°	1101.1	1104.2	1106.3	1115.7	1117.8
17.5°	1081.2	1084.4	1089.6	1100.0	1102.1
20°	1057.2	1061.3	1067.6	1081.2	1084.4
22.5°	1031.0	1035.2	1045.7	1058.2	1063.4
25°	1000.7	1009.1	1019.5	1036.3	1039.4
27.5°	970.4	977.7	991.3	1009.1	1013.2
30°	934.8	946.3	963.1	980.8	985.0
32.5°	900.3	911.8	931.7	950.5	955.7
35°	864.8	875.2	896.1	918.1	924.4
37.5°	824.0	837.6	860.6	882.5	888.8
40°	781.1	797.8	824.0	847.0	854.3
42.5°	740.3	758.1	784.2	809.3	817.7
45°	697.5	714.2	745.6	773.8	780.1
47.5°	653.5	672.4	705.8	734.1	744.5
50°	609.6	629.5	665.0	694.3	700.6
52.5°	565.7	586.6	624.3	655.6	658.8
55°	519.7	542.7	582.4	612.8	619.0
57.5°	477.9	497.7	540.6	572.0	579.3
60°	431.9	453.8	499.8	529.1	538.5
62.5°	387.9	410.9	459.0	488.3	496.7
65°	341.9	368.1	415.1	449.6	458.0
67.5°	302.2	327.3	377.5	410.9	419.3
70°	256.2	284.4	337.7	372.3	380.6
72.5°	216.5	245.7	299.1	332.5	345.1
75°	173.6	207.0	260.4	295.9	304.3
77.5°	131.8	170.4	224.8	252.0	252.0
80°	94.1	134.9	185.1	197.6	199.7
82.5°	61.7	101.4	137.0	135.9	135.9
85°	35.6	65.9	81.6	79.5	79.5
87.5°	13.6	27.2	29.3	29.3	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)