

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: P311333

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311333
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-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5500K 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: 3325.0 lumens
Efficiency: N/A
Efficacy: 115.5 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

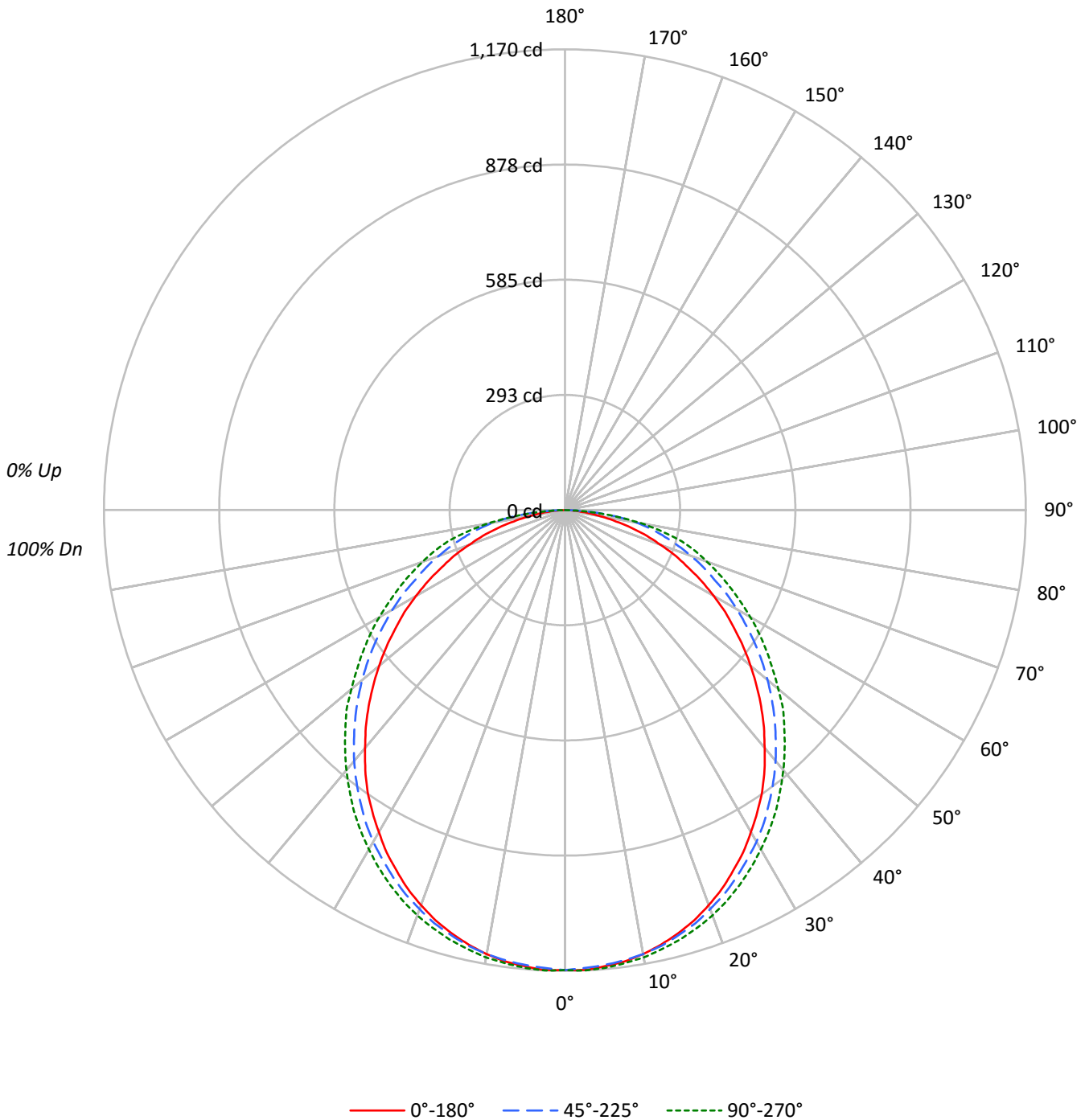
Input Watts (W): 28.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1572	1572	1572
5°	1571	1566	1576
10°	1564	1564	1576
15°	1549	1556	1573
20°	1529	1544	1568
25°	1500	1529	1559
30°	1467	1511	1546
35°	1435	1487	1533
40°	1386	1462	1516
45°	1340	1433	1499
50°	1289	1406	1481
55°	1231	1380	1467
60°	1174	1358	1464
65°	1100	1335	1473
70°	1018	1342	1512
75°	911	1367	1598
80°	737	1448	1563
85°	554	1272	1240



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.6	3.3
10°-20°	316.0	9.5
20°-30°	475.0	14.3
30°-40°	565.8	17.0
40°-50°	579.0	17.4
50°-60°	521.3	15.7
60°-70°	409.4	12.3
70°-80°	265.7	8.0
80°-90°	82.2	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°	901.5	27.1
0°-40°	1467.3	44.1
0°-60°	2567.7	77.2
0°-90°	3325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3325.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1168	1168	1168	1168	1168	
5°	1163	1165	1160	1166	1167	110
15°	1112	1115	1117	1127	1129	314
25°	1011	1019	1030	1047	1050	466
35°	873	884	905	927	934	545
45°	704	721	753	782	788	543
55°	525	548	588	619	625	471
65°	345	372	419	454	463	344
75°	175	209	263	299	307	186
85°	36	66	82	80	80	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1168.1	1168.1	1168.1	1168.1	<i>1168.1</i>
2.5°	<i>1169.2</i>	<i>1169.2</i>	<i>1163.9</i>	<i>1169.2</i>	<i>1170.2</i>
5°	1162.8	1164.9	1159.6	1166.0	<i>1167.0</i>
7.5°	1156.5	1156.5	1153.3	1159.6	<i>1160.7</i>
10°	1144.9	1145.9	1144.9	1152.3	<i>1153.3</i>
12.5°	1130.1	1132.2	1133.2	1140.6	<i>1141.7</i>
15°	1112.1	1115.3	1117.4	1126.9	<i>1129.0</i>
17.5°	1092.1	1095.2	1100.5	1111.1	<i>1113.2</i>
20°	1067.8	1072.0	1078.3	1092.1	<i>1095.2</i>
22.5°	1041.4	1045.6	1056.1	1068.8	<i>1074.1</i>
25°	1010.7	1019.2	1029.7	1046.6	<i>1049.8</i>
27.5°	980.1	987.5	1001.2	1019.2	<i>1023.4</i>
30°	944.2	955.8	972.7	990.7	<i>994.9</i>
32.5°	909.3	921.0	941.0	960.0	<i>965.3</i>
35°	873.4	884.0	905.1	927.3	<i>933.6</i>
37.5°	832.2	846.0	869.2	891.4	<i>897.7</i>
40°	788.9	805.8	832.2	855.5	<i>862.9</i>
42.5°	747.7	765.7	792.1	817.5	<i>825.9</i>
45°	704.4	721.3	753.0	781.5	<i>787.9</i>
47.5°	660.1	679.1	712.9	741.4	<i>752.0</i>
50°	615.7	635.8	671.7	701.3	<i>707.6</i>
52.5°	571.4	592.5	630.5	662.2	<i>665.4</i>
55°	524.9	548.1	588.3	618.9	<i>625.2</i>
57.5°	482.7	502.7	546.0	577.7	<i>585.1</i>
60°	436.2	458.4	504.8	534.4	<i>543.9</i>
62.5°	391.8	415.1	463.6	493.2	<i>501.7</i>
65°	345.4	371.8	419.3	454.1	<i>462.6</i>
67.5°	305.2	330.6	381.3	415.1	<i>423.5</i>
70°	258.8	287.3	341.1	376.0	<i>384.4</i>
72.5°	218.6	248.2	302.1	335.9	<i>348.5</i>
75°	175.3	209.1	263.0	298.9	<i>307.3</i>
77.5°	133.1	172.2	227.1	254.5	<i>254.5</i>
80°	95.1	136.2	186.9	199.6	<i>201.7</i>
82.5°	62.3	102.4	138.4	137.3	<i>137.3</i>
85°	35.9	66.5	82.4	80.3	<i>80.3</i>
87.5°	13.7	27.5	29.6	29.6	<i>28.5</i>
90°	0.0	0.0	0.0	0.0	<i>0.0</i>

(END OF REPORT)