

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: P311334

Luminaire Tested: **24FCZ2-35-UNV-L82765-S-CP187-W2A-U-5700K**

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: P311334
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5700K 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: 3333.0 lumens
Efficiency: N/A
Efficacy: 115.7 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

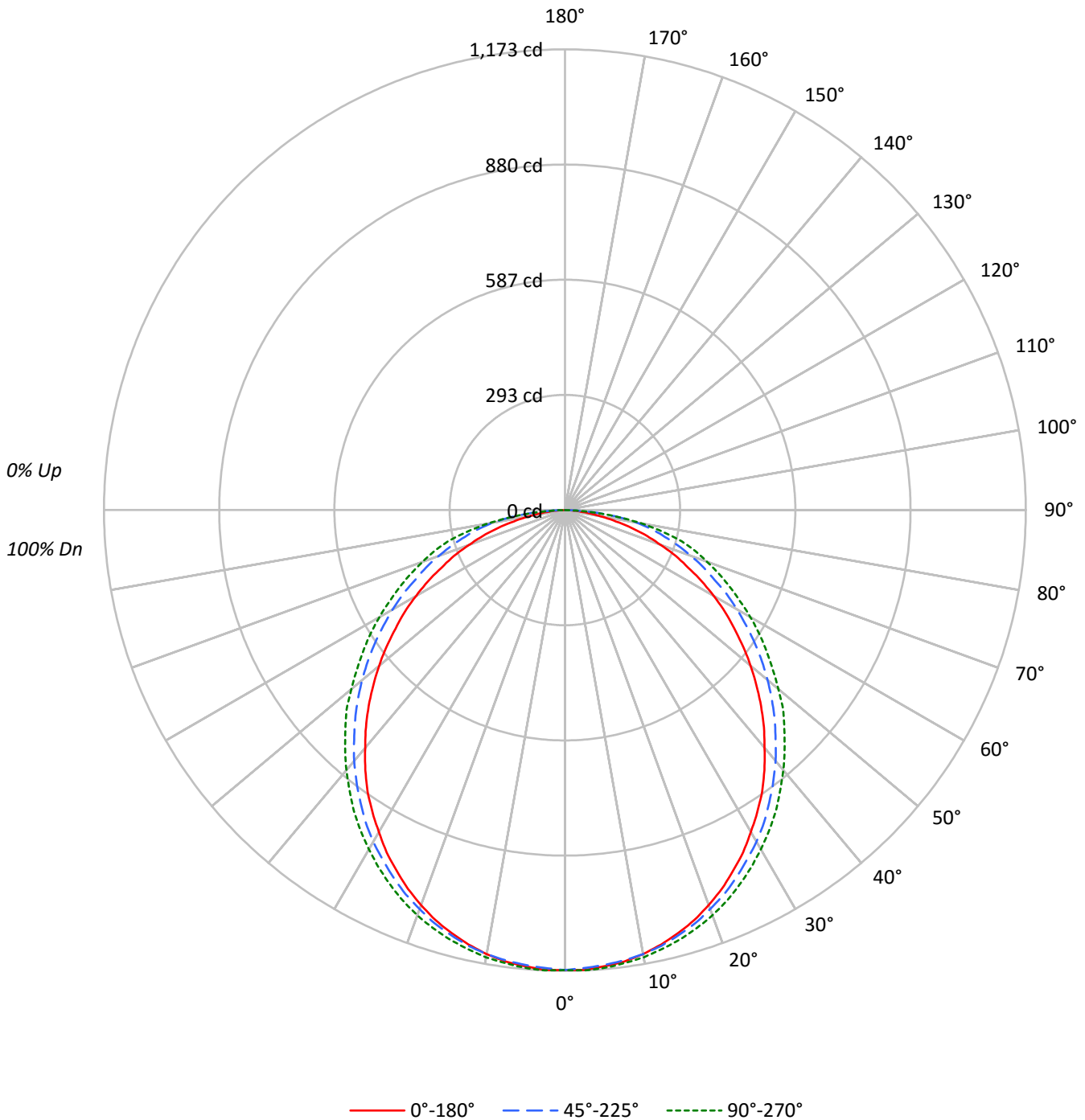
Input Watts (W): 28.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1575	1575	1575
5°	1574	1570	1580
10°	1568	1568	1580
15°	1553	1560	1576
20°	1532	1548	1572
25°	1504	1532	1562
30°	1471	1515	1549
35°	1438	1490	1537
40°	1389	1465	1519
45°	1344	1436	1503
50°	1292	1409	1485
55°	1234	1383	1470
60°	1176	1362	1467
65°	1102	1338	1476
70°	1020	1345	1516
75°	913	1370	1602
80°	738	1452	1567
85°	556	1275	1243



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.8	3.3
10°-20°	316.7	9.5
20°-30°	476.1	14.3
30°-40°	567.1	17.0
40°-50°	580.4	17.4
50°-60°	522.6	15.7
60°-70°	410.4	12.3
70°-80°	266.4	8.0
80°-90°	82.4	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°	903.7	27.1
0°-40°	1470.9	44.1
0°-60°	2573.9	77.2
0°-90°	3333.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3333.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1171	1171	1171	1171	1171	
5°	1166	1168	1162	1169	1170	111
15°	1115	1118	1120	1130	1132	314
25°	1013	1022	1032	1049	1052	467
35°	876	886	907	930	936	546
45°	706	723	755	783	790	544
55°	526	550	590	620	627	472
65°	346	373	420	455	464	345
75°	176	210	264	300	308	186
85°	36	67	83	80	80	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1170.9	1170.9	1170.9	1170.9	1170.9
2.5°	1172.0	1172.0	1166.7	1172.0	1173.0
5°	1165.6	1167.7	1162.4	1168.8	1169.8
7.5°	1159.3	1159.3	1156.1	1162.4	1163.5
10°	1147.6	1148.7	1147.6	1155.0	1156.1
12.5°	1132.8	1134.9	1136.0	1143.4	1144.4
15°	1114.8	1118.0	1120.1	1129.6	1131.7
17.5°	1094.7	1097.9	1103.1	1113.7	1115.9
20°	1070.3	1074.6	1080.9	1094.7	1097.9
22.5°	1043.9	1048.1	1058.7	1071.4	1076.7
25°	1013.2	1021.6	1032.2	1049.2	1052.3
27.5°	982.5	989.9	1003.6	1021.6	1025.9
30°	946.5	958.1	975.0	993.0	997.3
32.5°	911.5	923.2	943.3	962.3	967.6
35°	875.5	886.1	907.3	929.5	935.9
37.5°	834.2	848.0	871.3	893.5	899.9
40°	790.8	807.8	834.2	857.5	864.9
42.5°	749.5	767.5	794.0	819.4	827.9
45°	706.1	723.1	754.8	783.4	789.8
47.5°	661.7	680.7	714.6	743.2	753.8
50°	617.2	637.3	673.3	703.0	709.3
52.5°	572.7	593.9	632.0	663.8	667.0
55°	526.2	549.5	589.7	620.4	626.7
57.5°	483.8	503.9	547.3	579.1	586.5
60°	437.2	459.5	506.1	535.7	545.2
62.5°	392.8	416.1	464.8	494.4	502.9
65°	346.2	372.7	420.3	455.2	463.7
67.5°	306.0	331.4	382.2	416.1	424.5
70°	259.4	288.0	342.0	376.9	385.4
72.5°	219.1	248.8	302.8	336.7	349.4
75°	175.7	209.6	263.6	299.6	308.1
77.5°	133.4	172.6	227.6	255.1	255.1
80°	95.3	136.6	187.4	200.1	202.2
82.5°	62.5	102.7	138.7	137.6	137.6
85°	36.0	66.7	82.6	80.5	80.5
87.5°	13.8	27.5	29.6	29.6	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)