

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: P311287

Luminaire Tested: **24FCZ2-35HE-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: P311287
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: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 3257.0 lumens
Efficiency: N/A
Efficacy: 122.4 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

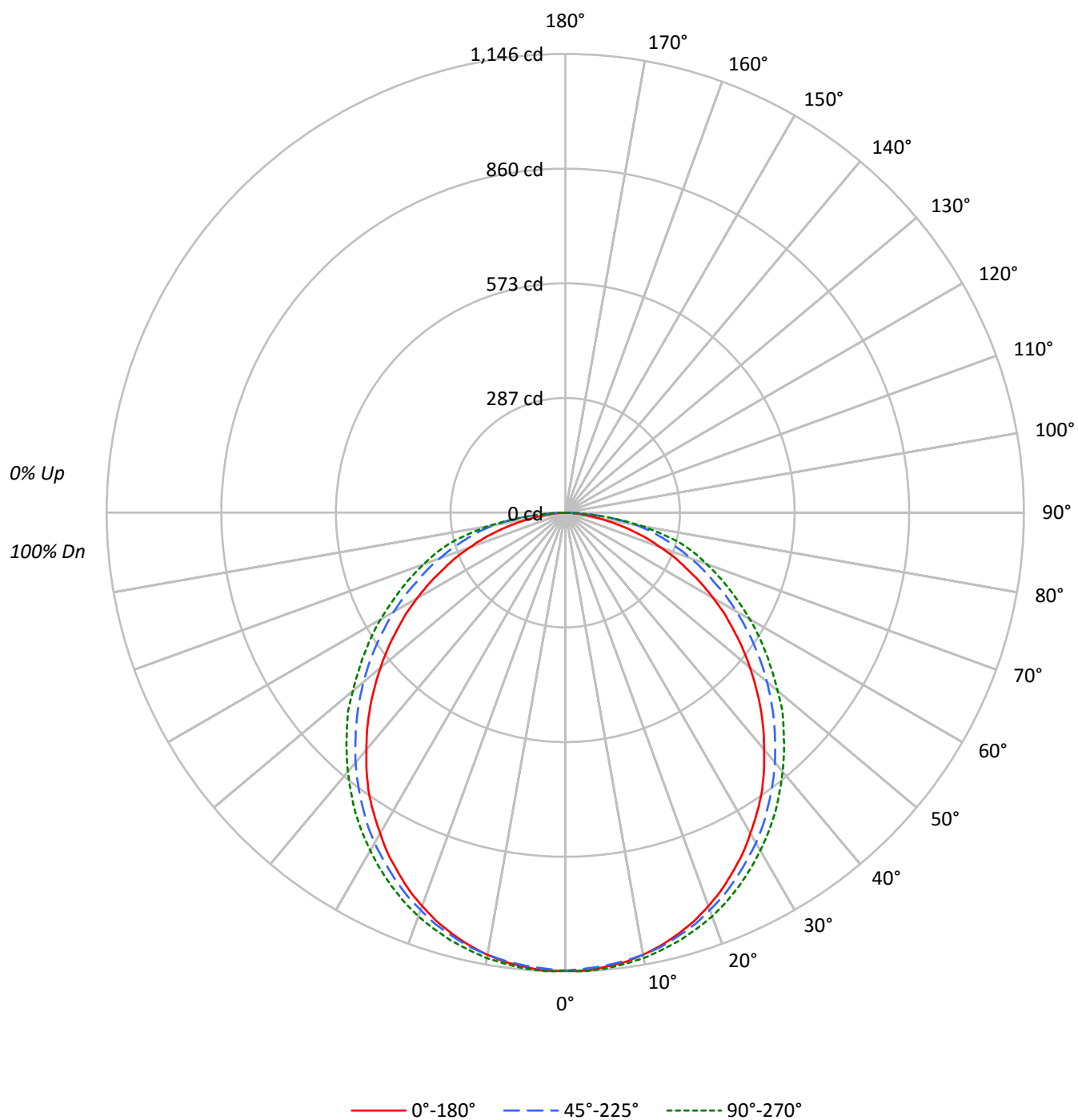
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1540	1540	1540
5°	1538	1534	1544
10°	1532	1532	1543
15°	1517	1525	1540
20°	1498	1512	1536
25°	1470	1497	1527
30°	1437	1480	1514
35°	1405	1456	1502
40°	1357	1432	1485
45°	1313	1404	1469
50°	1262	1377	1451
55°	1206	1352	1437
60°	1150	1331	1434
65°	1077	1308	1443
70°	997	1315	1482
75°	893	1339	1565
80°	721	1419	1531
85°	543	1246	1213



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.3	3.3
10°-20°	309.5	9.5
20°-30°	465.3	14.3
30°-40°	554.2	17.0
40°-50°	567.2	17.4
50°-60°	510.7	15.7
60°-70°	401.0	12.3
70°-80°	260.3	8.0
80°-90°	80.5	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°	883.1	27.1
0°-40°	1437.3	44.1
0°-60°	2515.2	77.2
0°-90°	3257.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3257.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1144	1144	1144	1144	1144	
5°	1139	1141	1136	1142	1143	108
15°	1089	1092	1094	1104	1106	307
25°	990	998	1009	1025	1028	456
35°	856	866	887	908	914	534
45°	690	707	738	766	772	532
55°	514	537	576	606	612	461
65°	338	364	411	445	453	337
75°	172	205	258	293	301	182
85°	35	65	81	79	79	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1144.2	1144.2	1144.2	1144.2	1144.2
2.5°	1145.2	1145.2	1140.1	1145.2	1146.3
5°	1139.0	1141.1	1135.9	1142.1	1143.2
7.5°	1132.8	1132.8	1129.7	1135.9	1137.0
10°	1121.4	1122.5	1121.4	1128.7	1129.7
12.5°	1107.0	1109.0	1110.1	1117.3	1118.3
15°	1089.4	1092.5	1094.5	1103.9	1105.9
17.5°	1069.7	1072.8	1078.0	1088.3	1090.4
20°	1045.9	1050.1	1056.3	1069.7	1072.8
22.5°	1020.1	1024.2	1034.5	1047.0	1052.1
25°	990.1	998.3	1008.7	1025.2	1028.3
27.5°	960.1	967.3	980.7	998.3	1002.5
30°	924.9	936.3	952.8	970.4	974.5
32.5°	890.7	902.1	921.8	940.4	945.6
35°	855.6	865.9	886.6	908.3	914.5
37.5°	815.2	828.7	851.4	873.2	879.4
40°	772.8	789.4	815.2	838.0	845.2
42.5°	732.5	750.0	775.9	800.7	809.0
45°	690.0	706.6	737.6	765.6	771.8
47.5°	646.6	665.2	698.3	726.2	736.6
50°	603.1	622.8	658.0	686.9	693.1
52.5°	559.7	580.4	617.6	648.7	651.8
55°	514.2	536.9	576.2	606.2	612.4
57.5°	472.8	492.4	534.9	565.9	573.1
60°	427.3	449.0	494.5	523.5	532.8
62.5°	383.8	406.6	454.2	483.1	491.4
65°	338.3	364.2	410.7	444.9	453.1
67.5°	299.0	323.8	373.5	406.6	414.9
70°	253.5	281.4	334.2	368.3	376.6
72.5°	214.2	243.1	295.9	329.0	341.4
75°	171.7	204.8	257.6	292.8	301.1
77.5°	130.4	168.6	222.4	249.3	249.3
80°	93.1	133.5	183.1	195.5	197.6
82.5°	61.0	100.4	135.5	134.5	134.5
85°	35.2	65.2	80.7	78.6	78.6
87.5°	13.4	26.9	29.0	29.0	27.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)