

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: P311289

Luminaire Tested: **24FCZ2-35HE-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: P311289
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 3298.0 lumens
Efficiency: N/A
Efficacy: 123.5 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

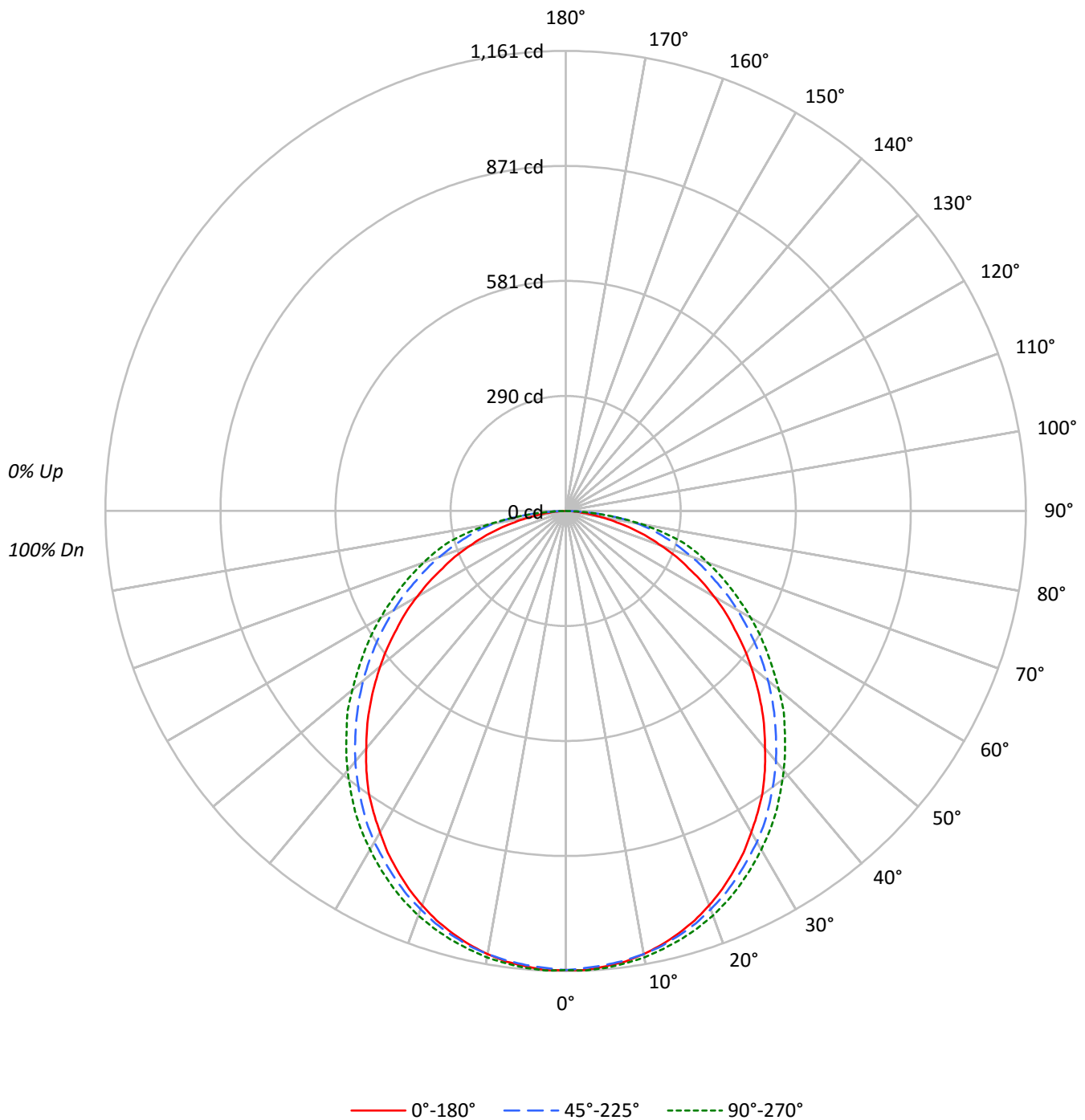
Input Watts (W): 26.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1559	1559	1559
5°	1558	1553	1563
10°	1552	1552	1563
15°	1537	1544	1560
20°	1516	1531	1555
25°	1488	1516	1546
30°	1455	1499	1533
35°	1423	1475	1521
40°	1374	1450	1503
45°	1329	1421	1487
50°	1278	1395	1469
55°	1221	1369	1455
60°	1164	1347	1452
65°	1091	1324	1461
70°	1010	1331	1500
75°	904	1356	1585
80°	731	1437	1550
85°	550	1261	1229



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.7	3.3
10°-20°	313.4	9.5
20°-30°	471.1	14.3
30°-40°	561.2	17.0
40°-50°	574.4	17.4
50°-60°	517.1	15.7
60°-70°	406.1	12.3
70°-80°	263.6	8.0
80°-90°	81.5	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°	894.2	27.1
0°-40°	1455.4	44.1
0°-60°	2546.9	77.2
0°-90°	3298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3298.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1159	1159	1159	1159	1159	
5°	1153	1156	1150	1156	1158	110
15°	1103	1106	1108	1118	1120	311
25°	1002	1011	1021	1038	1041	462
35°	866	877	898	920	926	540
45°	699	716	747	775	782	539
55°	521	544	584	614	620	467
65°	343	369	416	450	459	341
75°	174	207	261	296	305	184
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°	1158.6	1158.6	1158.6	1158.6	1158.6
2.5°	1159.7	1159.7	1154.4	1159.7	1160.7
5°	1153.4	1155.5	1150.2	1156.5	1157.6
7.5°	1147.1	1147.1	1143.9	1150.2	1151.3
10°	1135.6	1136.6	1135.6	1142.9	1143.9
12.5°	1120.9	1123.0	1124.0	1131.4	1132.4
15°	1103.1	1106.2	1108.3	1117.8	1119.8
17.5°	1083.2	1086.3	1091.6	1102.0	1104.1
20°	1059.1	1063.3	1069.6	1083.2	1086.3
22.5°	1032.9	1037.1	1047.6	1060.1	1065.4
25°	1002.5	1010.9	1021.4	1038.1	1041.3
27.5°	972.1	979.5	993.1	1010.9	1015.1
30°	936.5	948.0	964.8	982.6	986.8
32.5°	902.0	913.5	933.4	952.2	957.5
35°	866.3	876.8	897.8	919.8	926.0
37.5°	825.5	839.1	862.1	884.1	890.4
40°	782.5	799.3	825.5	848.5	855.9
42.5°	741.7	759.5	785.7	810.8	819.2
45°	698.7	715.5	746.9	775.2	781.5
47.5°	654.7	673.6	707.1	735.4	745.9
50°	610.7	630.6	666.3	695.6	701.9
52.5°	566.7	587.7	625.4	656.8	660.0
55°	520.6	543.7	583.5	613.9	620.2
57.5°	478.7	498.6	541.6	573.0	580.4
60°	432.6	454.6	500.7	530.1	539.5
62.5°	388.6	411.7	459.9	489.2	497.6
65°	342.6	368.7	415.9	450.5	458.8
67.5°	302.7	327.9	378.2	411.7	420.1
70°	256.7	284.9	338.4	372.9	381.3
72.5°	216.8	246.2	299.6	333.1	345.7
75°	173.9	207.4	260.8	296.5	304.8
77.5°	132.0	170.8	225.2	252.5	252.5
80°	94.3	135.1	185.4	198.0	200.1
82.5°	61.8	101.6	137.2	136.2	136.2
85°	35.6	66.0	81.7	79.6	79.6
87.5°	13.6	27.2	29.3	29.3	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)