

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: P314237

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-S-CP250-W2A-U-4000K**

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: P314237
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-L83050-S-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 3294.0 lumens
Efficiency: N/A
Efficacy: 123.8 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

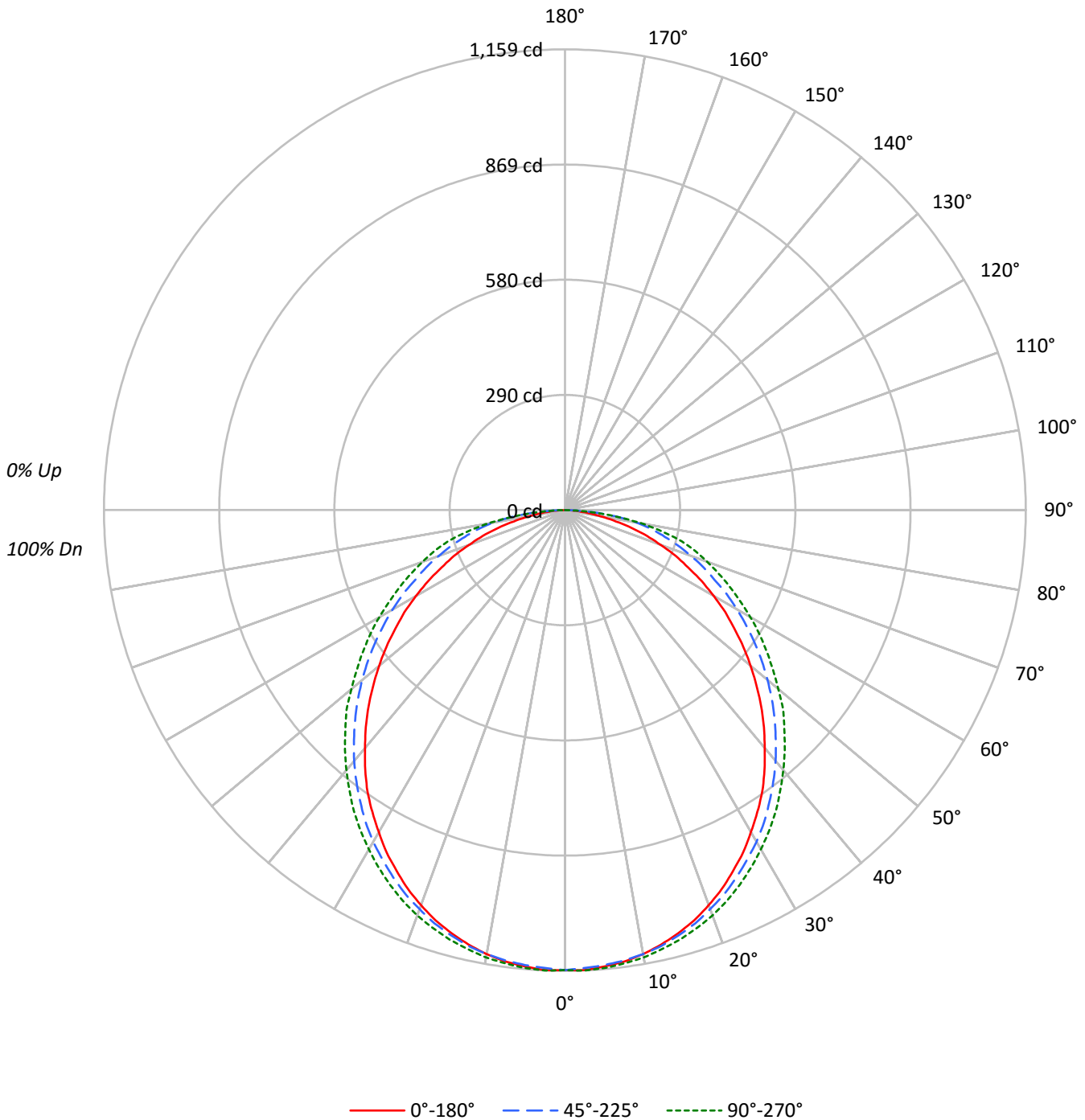
Input Watts (W): 26.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1557	1557	1557
5°	1556	1552	1562
10°	1550	1550	1561
15°	1535	1542	1558
20°	1515	1530	1554
25°	1487	1514	1544
30°	1453	1497	1531
35°	1421	1473	1519
40°	1373	1448	1501
45°	1328	1419	1485
50°	1277	1393	1467
55°	1220	1367	1453
60°	1163	1346	1450
65°	1089	1323	1459
70°	1008	1330	1498
75°	903	1354	1583
80°	730	1435	1548
85°	550	1260	1227



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.6	3.3
10°-20°	313.0	9.5
20°-30°	470.6	14.3
30°-40°	560.5	17.0
40°-50°	573.7	17.4
50°-60°	516.4	15.7
60°-70°	405.6	12.3
70°-80°	263.2	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°	893.1	27.1
0°-40°	1453.7	44.1
0°-60°	2543.8	77.2
0°-90°	3294.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3294.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1157	1157	1157	1157	1157	
5°	1152	1154	1149	1155	1156	109
15°	1102	1105	1107	1116	1118	311
25°	1001	1010	1020	1037	1040	461
35°	865	876	897	919	925	540
45°	698	715	746	774	780	538
55°	520	543	583	613	619	466
65°	342	368	415	450	458	341
75°	174	207	260	296	304	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°	1157.2	1157.2	1157.2	1157.2	1157.2
2.5°	1158.3	1158.3	1153.0	1158.3	1159.3
5°	1152.0	1154.1	1148.8	1155.1	1156.2
7.5°	1145.7	1145.7	1142.6	1148.8	1149.9
10°	1134.2	1135.2	1134.2	1141.5	1142.6
12.5°	1119.5	1121.6	1122.7	1130.0	1131.0
15°	1101.8	1104.9	1107.0	1116.4	1118.5
17.5°	1081.9	1085.0	1090.2	1100.7	1102.8
20°	1057.8	1062.0	1068.3	1081.9	1085.0
22.5°	1031.6	1035.8	1046.3	1058.9	1064.1
25°	1001.3	1009.7	1020.1	1036.9	1040.0
27.5°	971.0	978.3	991.9	1009.7	1013.9
30°	935.4	946.9	963.6	981.4	985.6
32.5°	900.9	912.4	932.3	951.1	956.3
35°	865.3	875.8	896.7	918.6	924.9
37.5°	824.5	838.1	861.1	883.1	889.4
40°	781.6	798.3	824.5	847.5	854.8
42.5°	740.8	758.6	784.7	809.8	818.2
45°	697.9	714.6	746.0	774.3	780.5
47.5°	653.9	672.8	706.3	734.5	745.0
50°	610.0	629.9	665.4	694.7	701.0
52.5°	566.0	587.0	624.6	656.0	659.2
55°	520.0	543.0	582.8	613.1	619.4
57.5°	478.2	498.0	540.9	572.3	579.6
60°	432.1	454.1	500.1	529.4	538.8
62.5°	388.2	411.2	459.3	488.6	497.0
65°	342.1	368.3	415.4	449.9	458.3
67.5°	302.4	327.5	377.7	411.2	419.6
70°	256.3	284.6	338.0	372.5	380.9
72.5°	216.6	245.9	299.2	332.7	345.3
75°	173.7	207.2	260.5	296.1	304.5
77.5°	131.8	170.5	225.0	252.2	252.2
80°	94.2	135.0	185.2	197.8	199.8
82.5°	61.7	101.5	137.1	136.0	136.0
85°	35.6	65.9	81.6	79.5	79.5
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)