

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: P314234

Luminaire Tested: **24FCZ2-35HE-UNV-L83050-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: P314234
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-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: 3353.0 lumens
Efficiency: N/A
Efficacy: 122.8 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

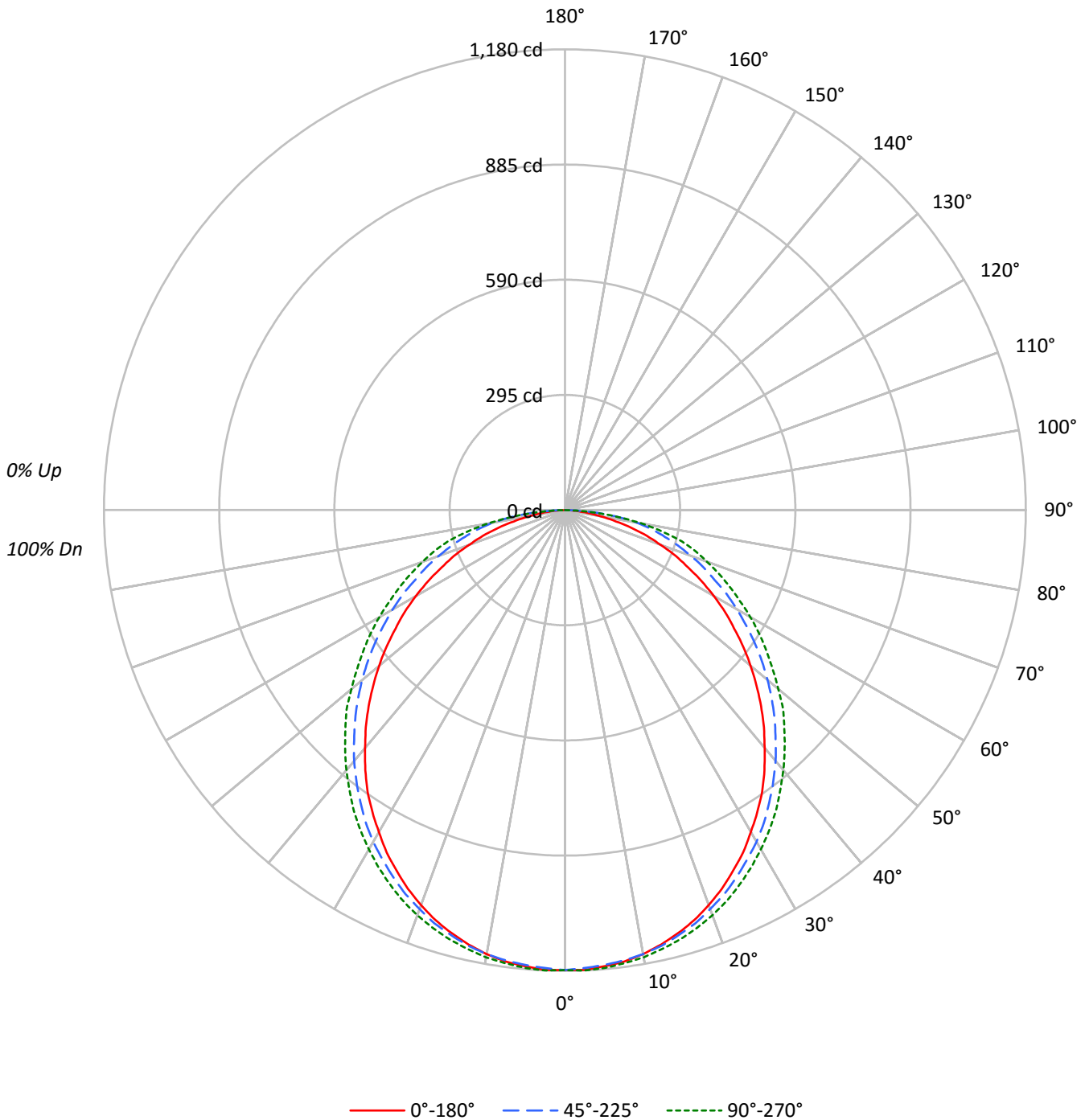
Input Watts (W): 27.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1585	1585	1585
5°	1584	1579	1590
10°	1577	1577	1589
15°	1562	1570	1586
20°	1542	1557	1581
25°	1513	1542	1572
30°	1479	1524	1559
35°	1447	1499	1546
40°	1397	1474	1528
45°	1352	1445	1512
50°	1300	1418	1494
55°	1242	1392	1479
60°	1184	1370	1476
65°	1109	1346	1485
70°	1026	1353	1525
75°	919	1379	1611
80°	743	1461	1576
85°	559	1283	1249



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.5	3.3
10°-20°	318.6	9.5
20°-30°	479.0	14.3
30°-40°	570.5	17.0
40°-50°	583.9	17.4
50°-60°	525.7	15.7
60°-70°	412.9	12.3
70°-80°	268.0	8.0
80°-90°	82.9	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°	909.1	27.1
0°-40°	1479.7	44.1
0°-60°	2589.3	77.2
0°-90°	3353.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3353.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1173	1175	1169	1176	1177	111
15°	1122	1125	1127	1136	1138	316
25°	1019	1028	1038	1056	1059	470
35°	881	891	913	935	942	549
45°	710	727	759	788	794	548
55°	529	553	593	624	630	475
65°	348	375	423	458	466	347
75°	177	211	265	301	310	187
85°	36	67	83	81	81	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1177.9	1177.9	1177.9	1177.9	1177.9
2.5°	1179.0	1179.0	1173.7	1179.0	1180.1
5°	1172.6	1174.7	1169.4	1175.8	1176.9
7.5°	1166.2	1166.2	1163.0	1169.4	1170.5
10°	1154.5	1155.6	1154.5	1162.0	1163.0
12.5°	1139.6	1141.7	1142.8	1150.2	1151.3
15°	1121.5	1124.7	1126.8	1136.4	1138.5
17.5°	1101.2	1104.4	1109.8	1120.4	1122.5
20°	1076.8	1081.0	1087.4	1101.2	1104.4
22.5°	1050.1	1054.4	1065.0	1077.8	1083.1
25°	1019.2	1027.8	1038.4	1055.5	1058.6
27.5°	988.4	995.8	1009.7	1027.8	1032.0
30°	952.1	963.9	980.9	999.0	1003.3
32.5°	917.0	928.7	948.9	968.1	973.4
35°	880.8	891.4	912.7	935.1	941.5
37.5°	839.2	853.1	876.5	898.9	905.3
40°	795.6	812.6	839.2	862.7	870.1
42.5°	754.0	772.2	798.8	824.3	832.9
45°	710.4	727.4	759.4	788.1	794.5
47.5°	665.6	684.8	718.9	747.7	758.3
50°	620.9	641.2	677.4	707.2	713.6
52.5°	576.2	597.5	635.8	667.8	671.0
55°	529.3	552.8	593.2	624.1	630.5
57.5°	486.7	507.0	550.6	582.6	590.0
60°	439.9	462.2	509.1	538.9	548.5
62.5°	395.1	418.6	467.6	497.4	505.9
65°	348.3	374.9	422.8	458.0	466.5
67.5°	307.8	333.4	384.5	418.6	427.1
70°	260.9	289.7	344.0	379.2	387.7
72.5°	220.5	250.3	304.6	338.7	351.5
75°	176.8	210.9	265.2	301.4	309.9
77.5°	134.2	173.6	229.0	256.7	256.7
80°	95.9	137.4	188.5	201.3	203.4
82.5°	62.8	103.3	139.5	138.5	138.5
85°	36.2	67.1	83.1	80.9	80.9
87.5°	13.8	27.7	29.8	29.8	28.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)