

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: P310755

Luminaire Tested: **24FCZ2-40-UNV-L82765-CP250-W2A-U-4500K**

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: P310755
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L82765-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4500K 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: 3489.0 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

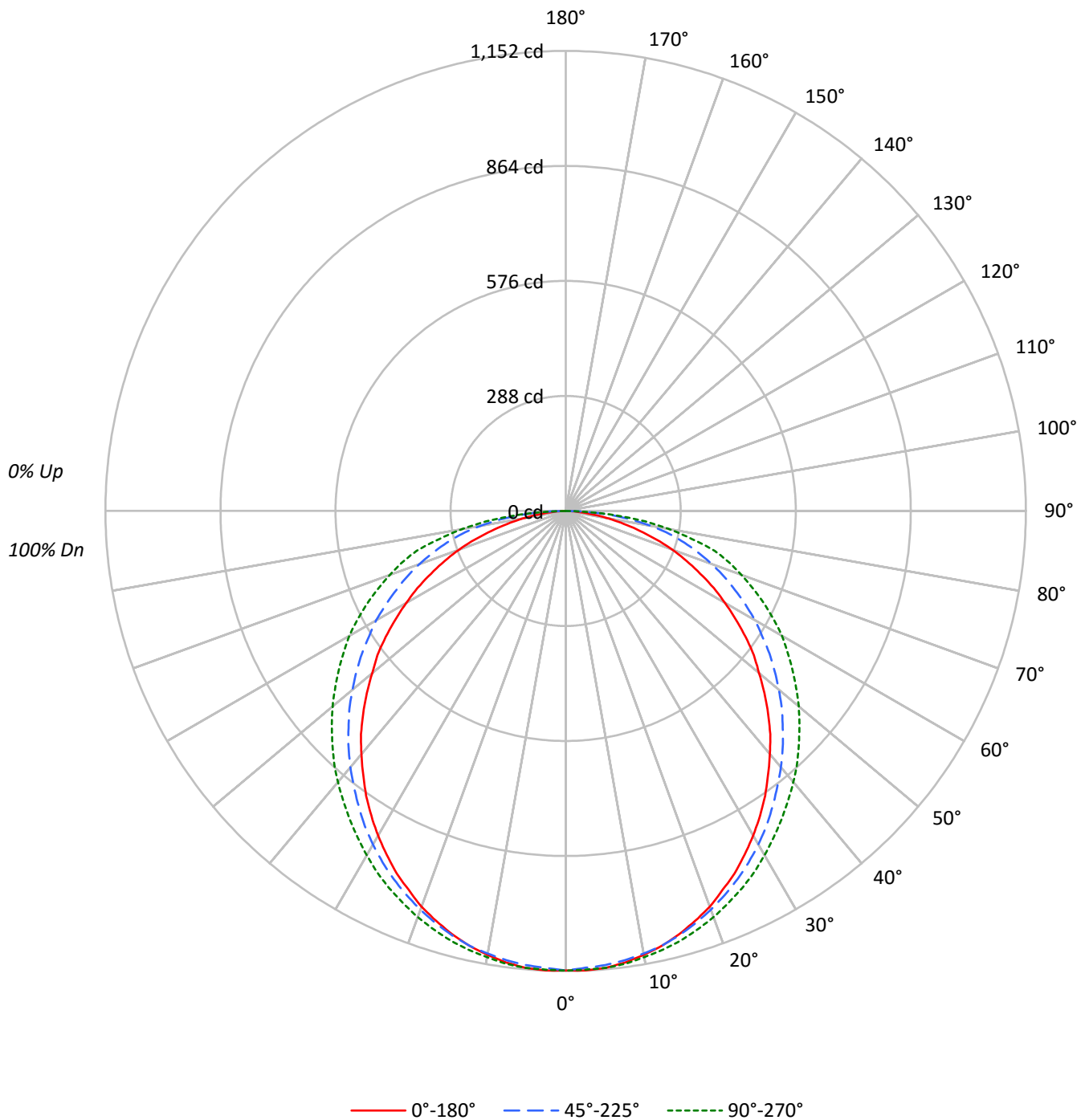
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1548	1548	1548
5°	1551	1542	1551
10°	1542	1537	1550
15°	1529	1532	1551
20°	1510	1522	1550
25°	1487	1511	1548
30°	1459	1498	1547
35°	1430	1483	1548
40°	1397	1472	1557
45°	1363	1462	1571
50°	1323	1459	1594
55°	1290	1461	1627
60°	1240	1473	1682
65°	1183	1489	1743
70°	1120	1535	1840
75°	999	1601	2010
80°	852	1695	2054
85°	608	1680	1965



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.9	3.1
10°-20°	311.4	8.9
20°-30°	470.3	13.5
30°-40°	566.8	16.2
40°-50°	595.1	17.1
50°-60°	556.7	16.0
60°-70°	459.7	13.2
70°-80°	313.3	9.0
80°-90°	106.8	3.1
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°	890.6	25.5
0°-40°	1457.4	41.8
0°-60°	2609.1	74.8
0°-90°	3489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3489.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1151	1151	1151	1151	1151	
5°	1148	1147	1141	1148	1148	109
15°	1097	1099	1100	1111	1114	309
25°	1001	1006	1018	1037	1043	461
35°	870	880	903	933	942	544
45°	716	732	769	810	825	553
55°	550	572	623	674	693	491
65°	372	403	468	527	548	369
75°	192	236	308	366	387	205
85°	39	78	109	123	127	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1150.6	1150.6	1150.6	1150.6	1150.6
2.5°	1151.8	1150.6	1144.9	1150.6	1149.5
5°	1148.3	1147.2	1141.4	1148.3	1148.3
7.5°	1140.2	1140.2	1134.4	1142.5	1143.7
10°	1128.6	1128.6	1125.2	1134.4	1134.4
12.5°	1114.8	1114.8	1114.8	1124.0	1125.2
15°	1097.4	1098.6	1099.7	1111.3	1113.6
17.5°	1076.6	1078.9	1082.3	1096.2	1098.6
20°	1054.6	1056.9	1062.7	1078.9	1082.3
22.5°	1026.8	1032.6	1040.7	1059.2	1062.7
25°	1001.3	1005.9	1017.5	1037.2	1043.0
27.5°	970.1	977.0	992.1	1012.9	1021.0
30°	938.8	945.7	964.3	988.6	995.5
32.5°	905.2	915.7	935.3	960.8	968.9
35°	870.5	879.8	902.9	933.0	942.3
37.5°	832.3	845.0	870.5	902.9	914.5
40°	795.3	809.2	838.1	872.8	886.7
42.5°	758.2	772.1	804.5	843.9	857.8
45°	716.5	731.6	768.6	810.3	825.4
47.5°	674.9	693.4	733.9	777.9	794.1
50°	632.0	652.9	696.9	743.2	761.7
52.5°	593.8	613.5	659.8	709.6	727.0
55°	549.9	571.8	622.8	673.7	693.4
57.5°	504.7	529.0	583.4	639.0	658.7
60°	460.7	487.3	547.5	603.1	625.1
62.5°	417.9	444.5	507.0	564.9	586.9
65°	371.6	402.8	467.7	526.7	547.5
67.5°	327.6	361.2	429.5	487.3	508.2
70°	284.8	317.2	390.1	446.8	467.7
72.5°	238.5	275.5	348.4	407.5	429.5
75°	192.2	236.1	307.9	365.8	386.6
77.5°	149.3	194.5	266.2	313.7	324.1
80°	110.0	156.3	218.8	252.4	265.1
82.5°	70.6	116.9	166.7	191.0	201.4
85°	39.4	77.6	108.8	122.7	127.3
87.5°	16.2	33.6	44.0	49.8	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)