

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: P310708

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3500K**

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: P310708
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: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3500K 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: 3375.0 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

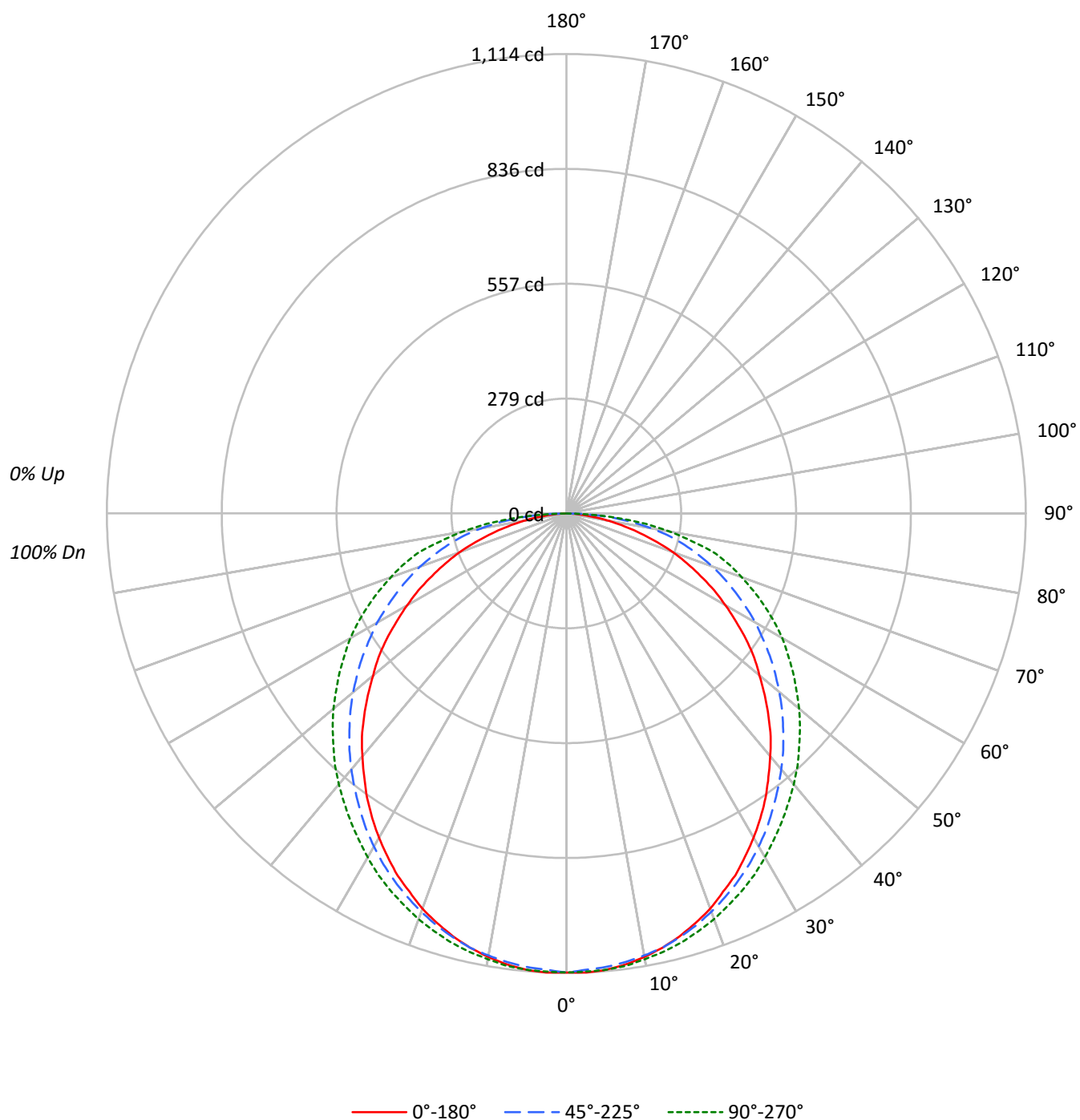
Input Watts (W): 30.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1498	1498	1498
5°	1500	1491	1500
10°	1492	1487	1499
15°	1479	1482	1500
20°	1461	1472	1499
25°	1438	1461	1498
30°	1411	1449	1496
35°	1383	1435	1497
40°	1351	1424	1506
45°	1319	1415	1519
50°	1280	1411	1542
55°	1248	1413	1573
60°	1199	1425	1627
65°	1144	1440	1686
70°	1084	1485	1780
75°	966	1549	1944
80°	824	1640	1987
85°	588	1626	1902



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.3	3.1
10°-20°	301.2	8.9
20°-30°	454.9	13.5
30°-40°	548.3	16.2
40°-50°	575.6	17.1
50°-60°	538.5	16.0
60°-70°	444.7	13.2
70°-80°	303.0	9.0
80°-90°	103.4	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°	861.5	25.5
0°-40°	1409.8	41.8
0°-60°	2523.9	74.8
0°-90°	3375.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1113	1113	1113	1113	1113	
5°	1111	1110	1104	1111	1111	105
15°	1062	1063	1064	1075	1077	299
25°	969	973	984	1003	1009	446
35°	842	851	873	902	912	526
45°	693	708	744	784	798	535
55°	532	553	602	652	671	475
65°	359	390	452	510	530	357
75°	186	228	298	354	374	198
85°	38	75	105	119	123	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1113.0	1113.0	1113.0	1113.0	1113.0
2.5°	1114.2	1113.0	1107.4	1113.0	1111.9
5°	1110.8	1109.7	1104.1	1110.8	1110.8
7.5°	1103.0	1103.0	1097.4	1105.2	1106.3
10°	1091.8	1091.8	1088.4	1097.4	1097.4
12.5°	1078.3	1078.3	1078.3	1087.3	1088.4
15°	1061.5	1062.7	1063.8	1075.0	1077.2
17.5°	1041.4	1043.6	1047.0	1060.4	1062.7
20°	1020.1	1022.3	1027.9	1043.6	1047.0
22.5°	993.2	998.8	1006.7	1024.6	1027.9
25°	968.6	973.1	984.3	1003.3	1008.9
27.5°	938.4	945.1	959.6	979.8	987.6
30°	908.1	914.8	932.8	956.3	963.0
32.5°	875.7	885.7	904.8	929.4	937.2
35°	842.1	851.0	873.4	902.5	911.5
37.5°	805.1	817.4	842.1	873.4	884.6
40°	769.3	782.7	810.7	844.3	857.7
42.5°	733.4	746.9	778.2	816.3	829.7
45°	693.1	707.7	743.5	783.8	798.4
47.5°	652.8	670.7	709.9	752.5	768.2
50°	611.4	631.5	674.1	718.9	736.8
52.5°	574.4	593.5	638.3	686.4	703.2
55°	531.9	553.2	602.4	651.7	670.7
57.5°	488.2	511.7	564.4	618.1	637.1
60°	445.7	471.4	529.6	583.4	604.7
62.5°	404.2	430.0	490.5	546.4	567.7
65°	359.4	389.7	452.4	509.5	529.6
67.5°	316.9	349.4	415.4	471.4	491.6
70°	275.5	306.8	377.4	432.2	452.4
72.5°	230.7	266.5	337.0	394.2	415.4
75°	185.9	228.4	297.9	353.8	374.0
77.5°	144.4	188.1	257.5	303.5	313.5
80°	106.4	151.2	211.6	244.1	256.4
82.5°	68.3	113.1	161.2	184.8	194.8
85°	38.1	75.0	105.3	118.7	123.2
87.5°	15.7	32.5	42.6	48.1	48.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)