

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: P310716

Luminaire Tested: **24FCZ2-40-UNV-L82765-CA08-W2A-U-3000K**

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: P310716
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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: 3494.0 lumens
Efficiency: N/A
Efficacy: 107.5 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

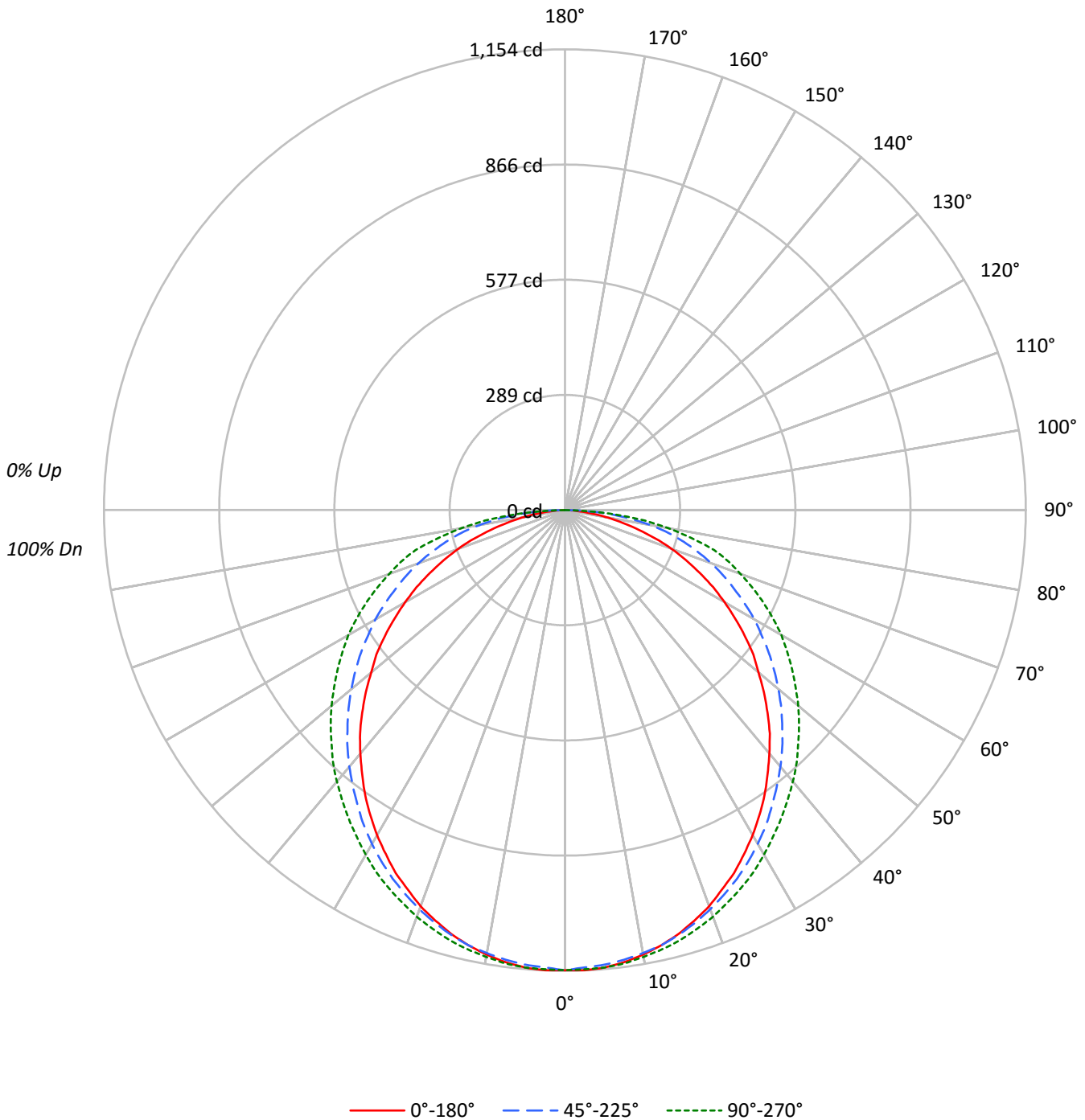
Input Watts (W): 32.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1550	1550	1550
5°	1553	1544	1553
10°	1544	1539	1552
15°	1531	1534	1553
20°	1512	1524	1552
25°	1489	1513	1551
30°	1461	1500	1549
35°	1432	1485	1550
40°	1399	1474	1560
45°	1365	1465	1573
50°	1325	1461	1597
55°	1292	1463	1629
60°	1242	1475	1685
65°	1185	1491	1746
70°	1122	1537	1842
75°	1000	1603	2013
80°	853	1698	2057
85°	608	1683	1968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.1	3.1
10°-20°	311.8	8.9
20°-30°	471.0	13.5
30°-40°	567.6	16.2
40°-50°	595.9	17.1
50°-60°	557.5	16.0
60°-70°	460.4	13.2
70°-80°	313.7	9.0
80°-90°	107.0	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°	891.8	25.5
0°-40°	1459.5	41.8
0°-60°	2612.9	74.8
0°-90°	3494.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3494.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1152	1152	1152	1152	1152	
5°	1150	1149	1143	1150	1150	109
15°	1099	1100	1101	1113	1115	310
25°	1003	1007	1019	1039	1044	461
35°	872	881	904	934	944	545
45°	718	733	770	812	826	553
55°	551	573	624	675	694	491
65°	372	403	468	528	548	369
75°	192	236	308	366	387	205
85°	39	78	109	123	128	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1152.3	1152.3	1152.3	1152.3	1152.3
2.5°	1153.5	1152.3	1146.5	1152.3	1151.1
5°	1150.0	1148.8	1143.0	1150.0	1150.0
7.5°	1141.9	1141.9	1136.1	1144.2	1145.3
10°	1130.3	1130.3	1126.8	1136.1	1136.1
12.5°	1116.4	1116.4	1116.4	1125.6	1126.8
15°	1099.0	1100.1	1101.3	1112.9	1115.2
17.5°	1078.1	1080.4	1083.9	1097.8	1100.1
20°	1056.1	1058.4	1064.2	1080.4	1083.9
22.5°	1028.3	1034.0	1042.2	1060.7	1064.2
25°	1002.7	1007.4	1019.0	1038.7	1044.5
27.5°	971.4	978.4	993.5	1014.3	1022.5
30°	940.1	947.1	965.7	990.0	997.0
32.5°	906.5	917.0	936.7	962.2	970.3
35°	871.8	881.0	904.2	934.4	943.6
37.5°	833.5	846.2	871.8	904.2	915.8
40°	796.4	810.3	839.3	874.1	888.0
42.5°	759.3	773.2	805.7	845.1	859.0
45°	717.6	732.6	769.7	811.5	826.5
47.5°	675.8	694.4	735.0	779.0	795.2
50°	632.9	653.8	697.9	744.2	762.8
52.5°	594.7	614.4	660.8	710.6	728.0
55°	550.6	572.7	623.7	674.7	694.4
57.5°	505.4	529.8	584.3	639.9	659.6
60°	461.4	488.0	548.3	604.0	626.0
62.5°	418.5	445.2	507.7	565.7	587.7
65°	372.1	403.4	468.3	527.5	548.3
67.5°	328.1	361.7	430.1	488.0	508.9
70°	285.2	317.6	390.7	447.5	468.3
72.5°	238.8	275.9	348.9	408.1	430.1
75°	192.4	236.5	308.4	366.3	387.2
77.5°	149.5	194.8	266.6	314.2	324.6
80°	110.1	156.5	219.1	252.7	265.5
82.5°	70.7	117.1	166.9	191.3	201.7
85°	39.4	77.7	109.0	122.9	127.5
87.5°	16.2	33.6	44.1	49.8	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)