

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: P313217

Luminaire Tested: **24FCZ2-45-UNV-L83050-HRP-CA08-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: P313217
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L83050-HRP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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

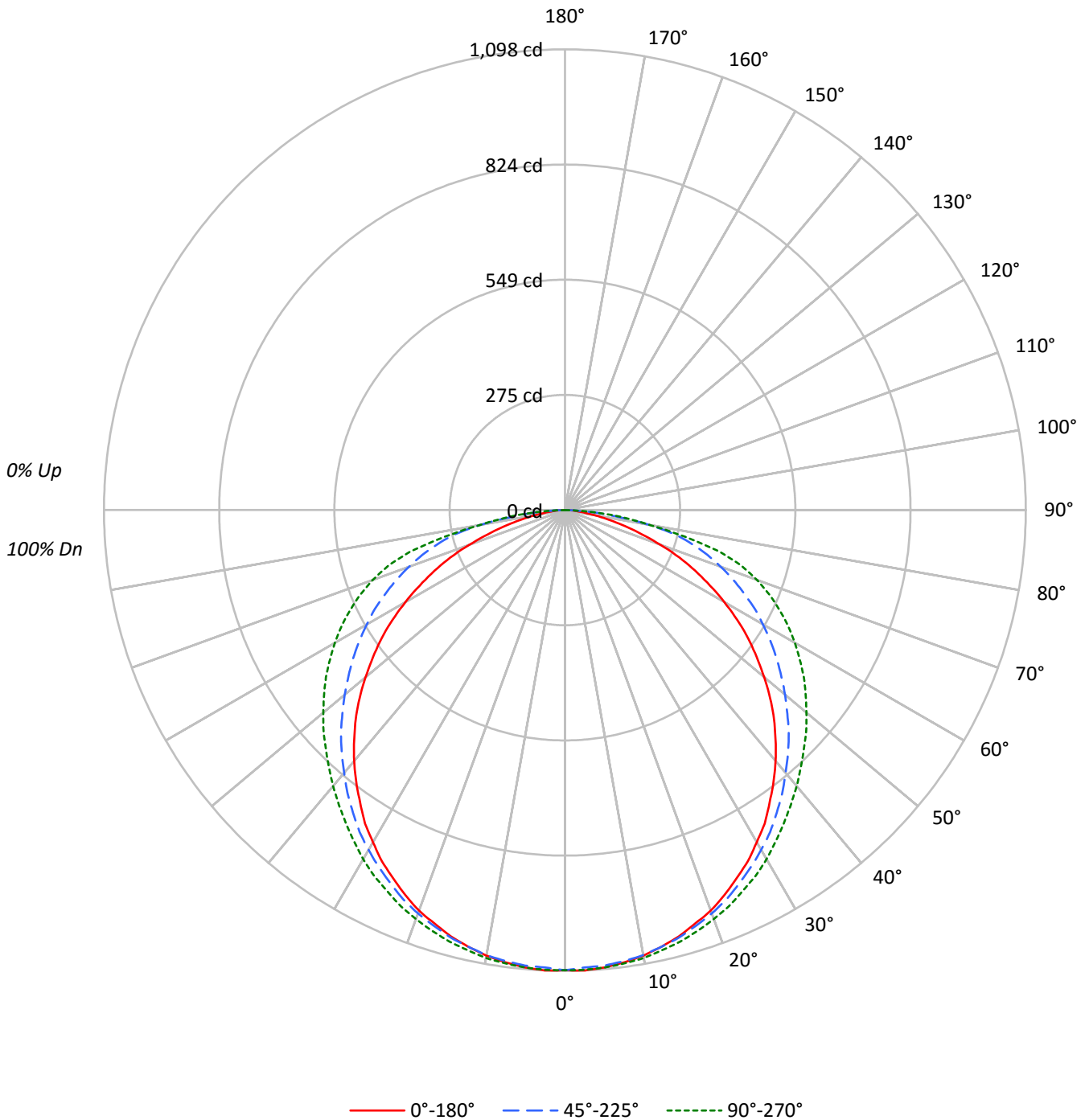
Lumens per Lamp: N/A
Luminaire Lumens: 3380.0 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1475	1475	1475
5°	1477	1472	1477
10°	1473	1471	1481
15°	1465	1468	1482
20°	1455	1465	1485
25°	1437	1458	1487
30°	1420	1453	1493
35°	1397	1446	1495
40°	1372	1437	1509
45°	1341	1435	1532
50°	1297	1434	1573
55°	1251	1444	1630
60°	1181	1466	1702
65°	1090	1500	1798
70°	952	1553	1915
75°	773	1633	1979
80°	570	1601	1601
85°	437	1179	1332



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.9	3.1
10°-20°	298.3	8.8
20°-30°	454.2	13.4
30°-40°	551.5	16.3
40°-50°	582.6	17.2
50°-60°	549.8	16.3
60°-70°	457.1	13.5
70°-80°	300.7	8.9
80°-90°	82.0	2.4
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°	856.4	25.3
0°-40°	1407.8	41.7
0°-60°	2540.2	75.2
0°-90°	3380.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3380.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1097	1097	1097	1097	1097	
5°	1094	1094	1090	1094	1094	104
15°	1051	1053	1054	1064	1064	297
25°	968	974	982	999	1002	446
35°	850	860	880	903	910	532
45°	705	719	754	791	805	543
55°	534	556	616	674	695	475
65°	342	382	471	540	565	338
75°	149	216	314	372	381	160
85°	28	62	76	85	86	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1096.6	1096.6	1096.6	1096.6	1096.6
2.5°	1098.1	1096.6	1091.0	1096.6	1096.6
5°	1093.8	1093.8	1089.6	1093.8	1093.8
7.5°	1086.7	1086.7	1083.9	1089.6	1089.6
10°	1078.2	1078.2	1076.8	1083.9	1083.9
12.5°	1065.5	1066.9	1065.5	1074.0	1074.0
15°	1051.4	1052.8	1054.2	1064.1	1064.1
17.5°	1033.0	1035.8	1038.6	1049.9	1051.4
20°	1016.0	1017.4	1023.1	1035.8	1037.2
22.5°	993.3	997.6	1004.7	1017.4	1021.6
25°	967.9	973.5	982.0	999.0	1001.8
27.5°	943.8	948.1	959.4	977.8	983.4
30°	914.1	921.2	935.3	953.7	960.8
32.5°	885.8	892.9	909.9	929.7	935.3
35°	850.4	860.3	880.1	902.8	909.9
37.5°	816.5	826.4	850.4	875.9	884.4
40°	781.1	792.4	817.9	847.6	858.9
42.5°	742.9	758.5	786.8	819.3	832.0
45°	704.7	718.8	754.2	791.0	805.1
47.5°	663.6	680.6	718.8	762.7	779.7
50°	619.8	641.0	684.9	733.0	751.4
52.5°	575.9	600.0	649.5	703.3	723.1
55°	533.5	556.1	615.5	673.6	694.8
57.5°	486.8	515.1	580.2	642.4	663.6
60°	438.7	469.8	544.8	609.9	632.5
62.5°	390.5	425.9	510.8	575.9	600.0
65°	342.4	382.1	471.2	540.5	564.6
67.5°	295.7	339.6	434.4	503.7	527.8
70°	242.0	297.2	394.8	462.7	486.8
72.5°	192.4	256.1	356.6	420.3	441.5
75°	148.6	216.5	314.1	372.2	380.6
77.5°	109.0	176.9	270.3	290.1	291.5
80°	73.6	141.5	206.6	203.8	206.6
82.5°	48.1	106.1	130.2	145.7	147.2
85°	28.3	62.3	76.4	84.9	86.3
87.5°	14.2	21.2	26.9	28.3	31.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)