

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: P313592

Luminaire Tested: **24FCZ2-45-UNV-L83050-RDP-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: P313592
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 2926.0 lumens
Efficiency: N/A
Efficacy: 76.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

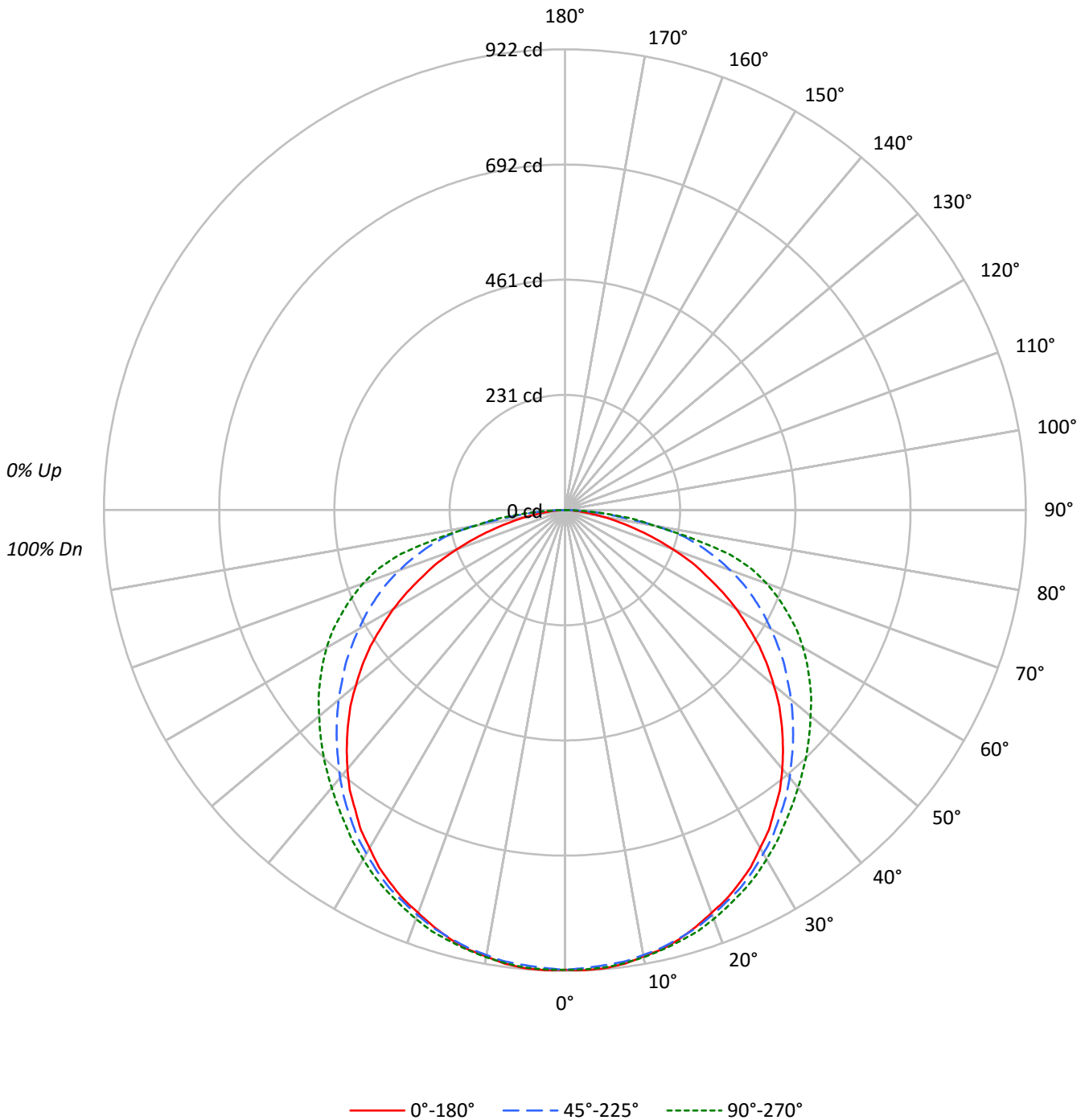
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82				82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67				67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56				56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47				47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40				40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35				35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27				27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24				24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22				22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1238	1238	1238
5°	1243	1235	1241
10°	1239	1235	1241
15°	1237	1235	1243
20°	1228	1234	1247
25°	1224	1237	1250
30°	1213	1233	1254
35°	1202	1230	1259
40°	1188	1229	1275
45°	1168	1229	1303
50°	1142	1236	1343
55°	1113	1256	1403
60°	1066	1281	1480
65°	998	1326	1571
70°	908	1388	1690
75°	769	1464	1765
80°	607	1473	1428
85°	448	1121	1255



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.3	3.0
10°-20°	251.2	8.6
20°-30°	384.1	13.1
30°-40°	469.6	16.0
40°-50°	500.5	17.1
50°-60°	478.6	16.4
60°-70°	405.4	13.9
70°-80°	272.5	9.3
80°-90°	76.9	2.6
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°	722.6	24.7
0°-40°	1192.2	40.7
0°-60°	2171.3	74.2
0°-90°	2926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2926.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	920	920	920	920	920	
5°	920	919	914	919	919	87
15°	888	888	887	894	893	250
25°	824	827	833	840	842	380
35°	732	737	749	763	766	458
45°	614	624	646	673	685	474
55°	475	492	536	578	598	423
65°	314	345	416	472	494	311
75°	148	202	282	330	340	159
85°	29	60	73	78	81	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	920.1	920.1	920.1	920.1	920.1
2.5°	921.6	921.6	917.2	920.1	920.1
5°	920.1	918.7	914.3	918.7	918.7
7.5°	915.8	914.3	911.4	915.8	914.3
10°	907.1	907.1	904.2	908.5	908.5
12.5°	899.8	898.4	896.9	902.7	901.3
15°	888.2	888.2	886.8	894.0	892.6
17.5°	873.7	875.2	876.6	882.4	883.9
20°	857.7	860.6	862.1	870.8	870.8
22.5°	843.2	844.7	847.6	856.3	856.3
25°	824.4	827.3	833.1	840.3	841.8
27.5°	805.5	806.9	814.2	824.4	825.8
30°	780.8	785.2	793.9	805.5	806.9
32.5°	759.0	763.4	773.6	785.2	788.1
35°	731.5	737.3	748.9	763.4	766.3
37.5°	706.8	711.2	725.7	741.6	746.0
40°	676.3	685.0	699.5	718.4	725.7
42.5°	645.8	654.5	672.0	696.6	705.3
45°	613.9	624.1	645.8	673.4	685.0
47.5°	582.0	593.6	618.3	650.2	663.3
50°	545.7	560.2	590.7	627.0	641.5
52.5°	510.9	528.3	561.7	602.3	621.2
55°	474.6	492.0	535.5	577.6	597.9
57.5°	433.9	457.2	505.1	553.0	574.7
60°	396.2	418.0	476.0	528.3	550.1
62.5°	355.6	384.6	447.0	502.2	523.9
65°	313.5	345.4	416.5	471.7	493.5
67.5°	275.8	310.6	386.1	441.2	463.0
70°	230.8	274.3	352.7	407.8	429.6
72.5°	188.7	236.6	317.8	371.5	391.9
75°	148.0	201.7	281.6	329.5	339.6
77.5°	110.3	166.9	243.8	264.1	256.9
80°	78.4	133.5	190.1	180.0	184.3
82.5°	50.8	101.6	117.6	133.5	137.9
85°	29.0	59.5	72.6	78.4	81.3
87.5°	13.1	21.8	29.0	29.0	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)