

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: P313706

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP187-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: P313706
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: 24FCZ2-60HE-UNV-L83050-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" 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: 3471.0 lumens
Efficiency: N/A
Efficacy: 72.9 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

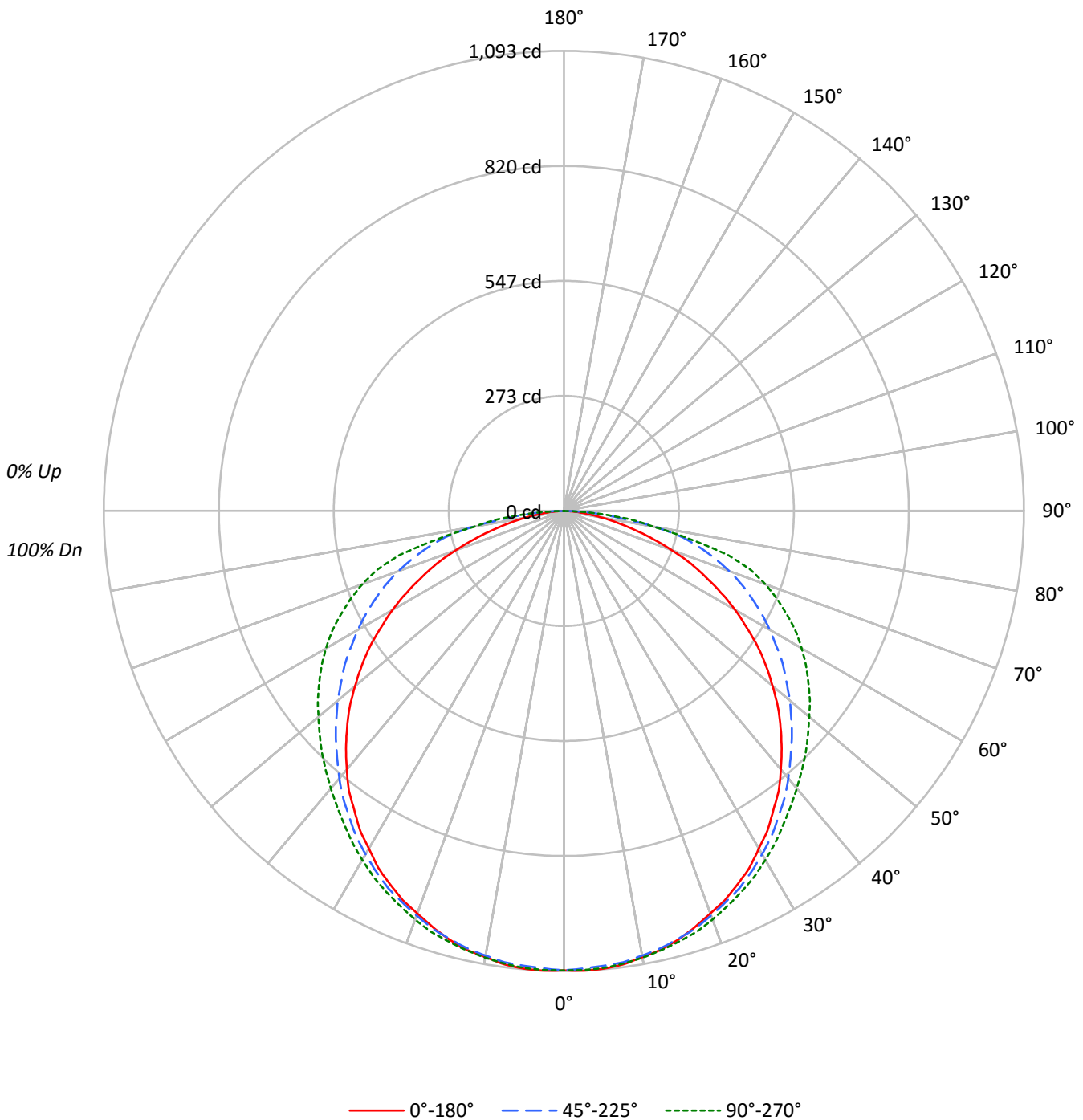
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1469	1469	1469
5°	1474	1465	1472
10°	1470	1465	1473
15°	1468	1465	1475
20°	1457	1464	1479
25°	1452	1467	1483
30°	1439	1463	1487
35°	1425	1459	1493
40°	1409	1457	1512
45°	1386	1458	1546
50°	1355	1467	1593
55°	1321	1490	1664
60°	1265	1520	1756
65°	1184	1573	1864
70°	1077	1646	2005
75°	913	1736	2095
80°	721	1747	1695
85°	531	1329	1488



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.5	3.0
10°-20°	298.0	8.6
20°-30°	455.7	13.1
30°-40°	557.1	16.0
40°-50°	593.7	17.1
50°-60°	567.7	16.4
60°-70°	480.9	13.9
70°-80°	323.2	9.3
80°-90°	91.2	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°	857.2	24.7
0°-40°	1414.3	40.7
0°-60°	2575.7	74.2
0°-90°	3471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1092	1092	1092	1092	1092	
5°	1092	1090	1085	1090	1090	104
15°	1054	1054	1052	1060	1059	297
25°	978	981	988	997	999	451
35°	868	875	888	906	909	544
45°	728	740	766	799	813	562
55°	563	584	635	685	709	501
65°	372	410	494	560	585	369
75°	176	239	334	391	403	188
85°	34	71	86	93	96	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1091.5	1091.5	1091.5	1091.5	1091.5
2.5°	1093.3	1093.3	1088.1	1091.5	1091.5
5°	1091.5	1089.8	1084.6	1089.8	1089.8
7.5°	1086.4	1084.6	1081.2	1086.4	1084.6
10°	1076.0	1076.0	1072.6	1077.8	1077.8
12.5°	1067.4	1065.7	1064.0	1070.9	1069.1
15°	1053.7	1053.7	1051.9	1060.5	1058.8
17.5°	1036.4	1038.2	1039.9	1046.8	1048.5
20°	1017.5	1020.9	1022.7	1033.0	1033.0
22.5°	1000.3	1002.0	1005.4	1015.8	1015.8
25°	977.9	981.3	988.2	996.8	998.6
27.5°	955.5	957.2	965.8	977.9	979.6
30°	926.3	931.4	941.7	955.5	957.2
32.5°	900.4	905.6	917.6	931.4	934.9
35°	867.7	874.6	888.4	905.6	909.0
37.5°	838.4	843.6	860.8	879.8	884.9
40°	802.3	812.6	829.8	852.2	860.8
42.5°	766.1	776.5	797.1	826.4	836.7
45°	728.3	740.3	766.1	798.8	812.6
47.5°	690.4	704.2	733.4	771.3	786.8
50°	647.3	664.6	700.7	743.8	761.0
52.5°	606.0	626.7	666.3	714.5	736.9
55°	563.0	583.6	635.3	685.2	709.3
57.5°	514.8	542.3	599.1	656.0	681.8
60°	470.0	495.8	564.7	626.7	652.5
62.5°	421.8	456.2	530.3	595.7	621.5
65°	371.9	409.8	494.1	559.5	585.4
67.5°	327.1	368.4	458.0	523.4	549.2
70°	273.7	325.4	418.4	483.8	509.6
72.5°	223.8	280.6	377.0	440.7	464.8
75°	175.6	239.3	334.0	390.8	402.9
77.5°	130.8	198.0	289.2	313.3	304.7
80°	93.0	158.4	225.5	213.5	218.7
82.5°	60.3	120.5	139.5	158.4	163.6
85°	34.4	70.6	86.1	93.0	96.4
87.5°	15.5	25.8	34.4	34.4	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)