

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: P309128

Luminaire Tested: **22FCZ2-44HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P309128
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-44HE-UNV-L82765-S-CP187-W2A-U-5500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 4084.0 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

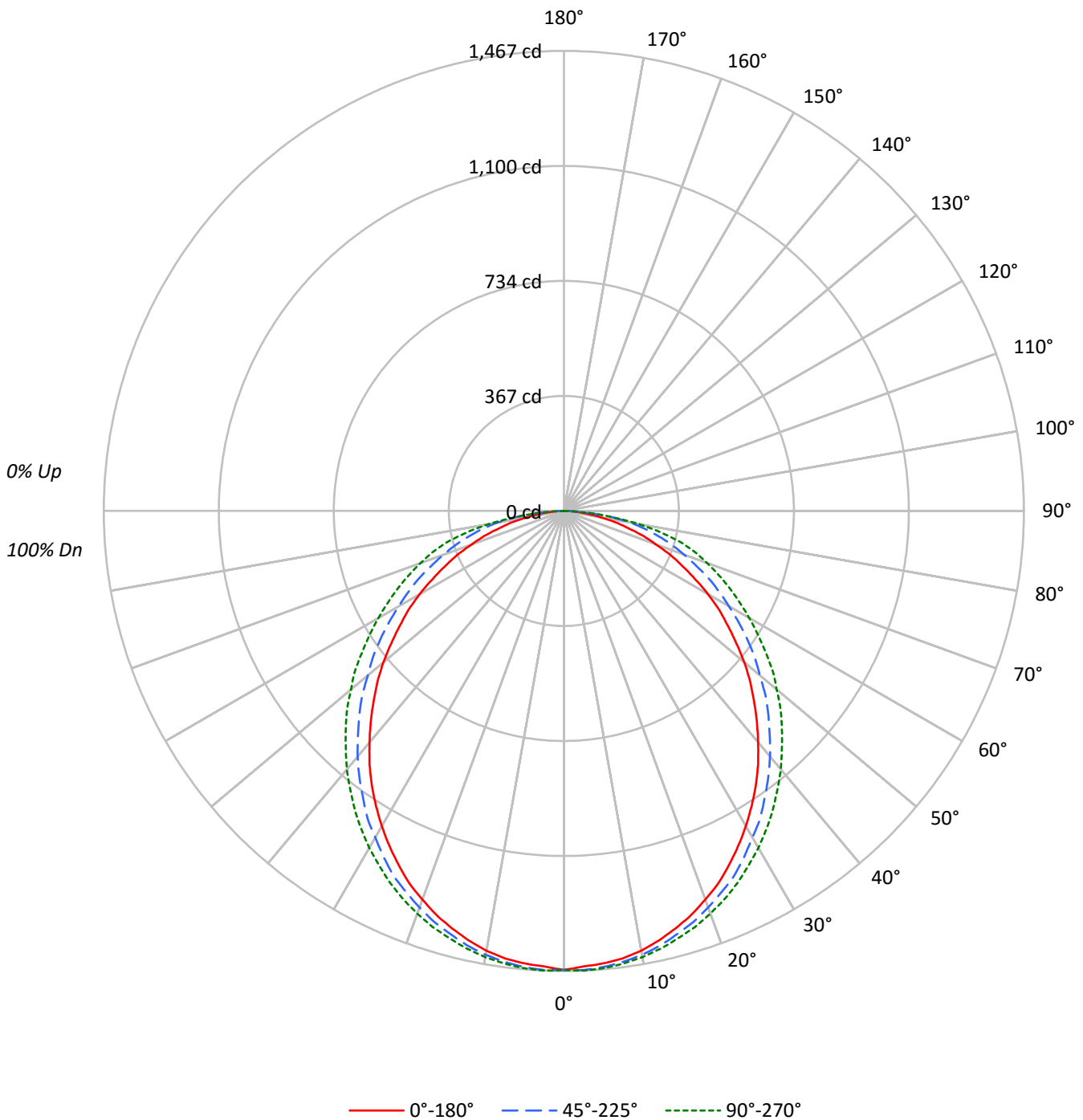
Input Watts (W): 38.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3938	3938	3938
5°	3912	3943	3953
10°	3889	3926	3947
15°	3838	3891	3928
20°	3776	3853	3912
25°	3700	3813	3887
30°	3606	3736	3855
35°	3506	3668	3819
40°	3387	3595	3782
45°	3263	3510	3742
50°	3143	3414	3710
55°	2995	3353	3683
60°	2861	3272	3672
65°	2669	3252	3713
70°	2459	3223	3823
75°	2219	3269	4022
80°	1920	3366	3780
85°	1587	2825	2825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.4	3.4
10°-20°	393.8	9.6
20°-30°	589.3	14.4
30°-40°	697.9	17.1
40°-50°	711.2	17.4
50°-60°	637.5	15.6
60°-70°	499.1	12.2
70°-80°	321.8	7.9
80°-90°	95.1	2.3
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°	1121.5	27.5
0°-40°	1819.4	44.5
0°-60°	3168.1	77.6
0°-90°	4084.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4084.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1463	1463	1463	1463	1463	
5°	1448	1452	1460	1462	1463	137
15°	1378	1385	1397	1408	1410	388
25°	1246	1258	1284	1302	1309	574
35°	1067	1080	1117	1151	1162	667
45°	858	876	922	970	983	662
55°	638	659	715	764	785	572
65°	419	444	511	560	583	416
75°	213	246	314	368	387	229
85°	51	70	92	92	92	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1463.4	1463.4	1463.4	1463.4	1463.4
2.5°	1453.9	1457.7	1465.3	1467.2	1467.2
5°	1448.2	1452.0	1459.6	1461.5	1463.4
7.5°	1438.7	1440.6	1450.1	1453.9	1455.8
10°	1423.4	1427.2	1436.7	1442.5	1444.4
12.5°	1402.4	1408.2	1419.6	1427.2	1429.1
15°	1377.7	1385.3	1396.7	1408.2	1410.1
17.5°	1351.0	1358.6	1373.9	1387.2	1391.0
20°	1318.6	1328.1	1345.3	1360.5	1366.2
22.5°	1286.2	1293.8	1314.8	1333.9	1339.6
25°	1246.2	1257.6	1284.3	1301.5	1309.1
27.5°	1204.3	1217.6	1244.3	1267.2	1274.8
30°	1160.4	1173.8	1202.4	1231.0	1240.5
32.5°	1114.7	1130.0	1164.3	1192.8	1202.4
35°	1067.1	1080.4	1116.6	1150.9	1162.4
37.5°	1017.5	1029.0	1070.9	1107.1	1118.5
40°	964.2	979.4	1023.3	1065.2	1076.6
42.5°	910.8	928.0	971.8	1017.5	1029.0
45°	857.5	876.5	922.3	969.9	983.2
47.5°	806.0	821.3	872.7	918.5	937.5
50°	750.8	766.0	815.6	867.0	886.1
52.5°	693.6	714.6	767.9	817.5	840.3
55°	638.3	659.3	714.6	764.1	785.1
57.5°	586.9	604.0	661.2	712.7	733.6
60°	531.6	546.9	607.9	663.1	682.2
62.5°	472.6	495.4	558.3	609.8	632.6
65°	419.2	444.0	510.7	560.2	583.1
67.5°	369.7	392.5	457.3	510.7	535.4
70°	312.5	343.0	409.7	463.0	485.9
72.5°	266.8	293.4	362.0	415.4	440.2
75°	213.4	245.8	314.4	367.8	386.8
77.5°	169.6	202.0	266.8	308.7	318.2
80°	123.9	156.3	217.2	238.2	243.9
82.5°	83.8	114.3	156.3	162.0	163.9
85°	51.4	70.5	91.5	91.5	91.5
87.5°	24.8	28.6	32.4	30.5	30.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)