

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: P309122

Luminaire Tested: **22FCZ2-44HE-UNV-L82765-S-CP187-W2A-U-2700K**

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: P309122
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-2700K
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: 3604.0 lumens
Efficiency: N/A
Efficacy: 96.9 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

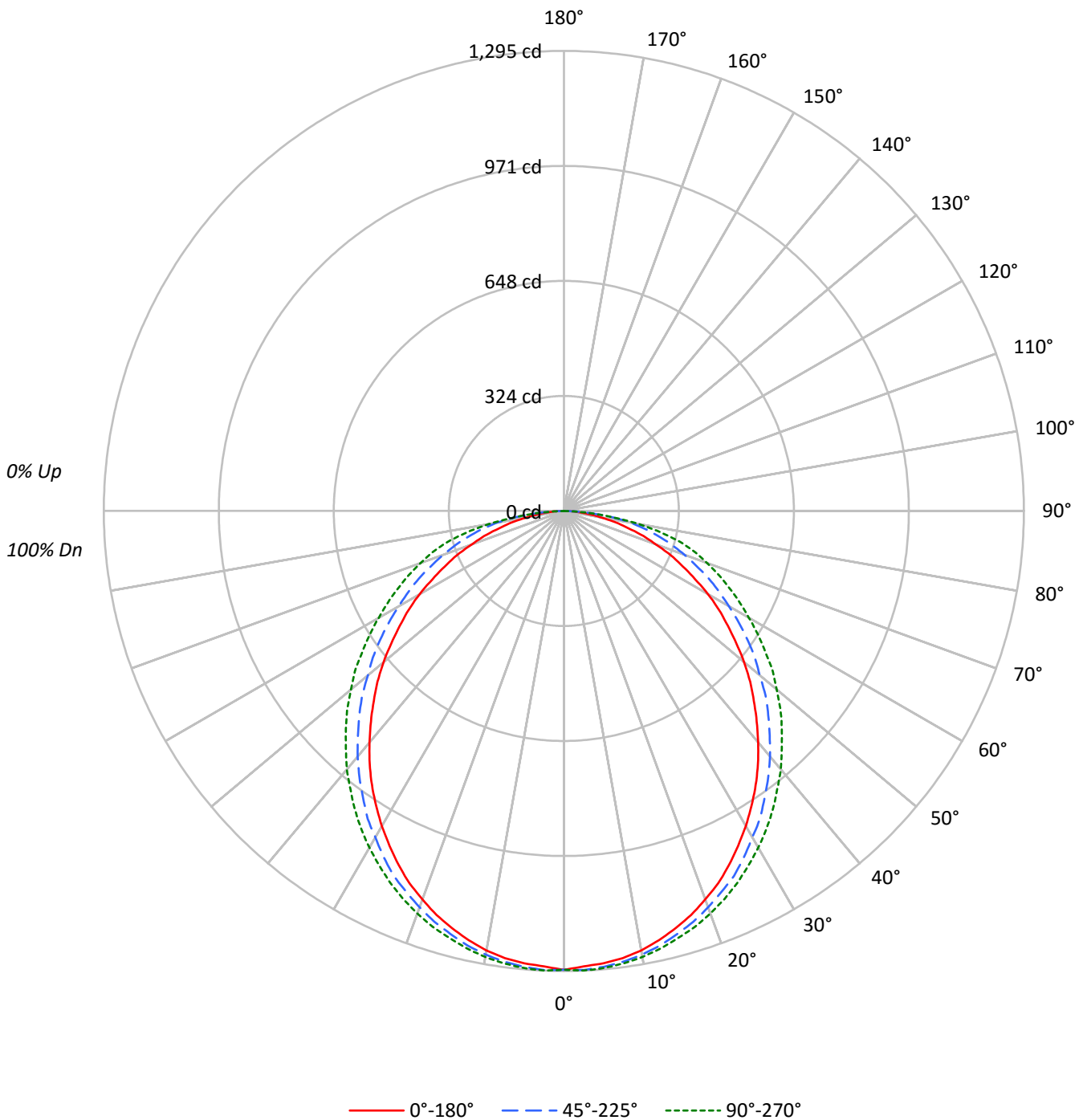
Input Watts (W): 37.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3475	3475	3475
5°	3452	3479	3488
10°	3432	3465	3483
15°	3387	3434	3467
20°	3332	3400	3453
25°	3265	3365	3430
30°	3182	3297	3402
35°	3094	3237	3370
40°	2989	3172	3338
45°	2880	3097	3302
50°	2774	3013	3273
55°	2643	2959	3250
60°	2525	2887	3240
65°	2355	2870	3277
70°	2170	2844	3374
75°	1958	2885	3550
80°	1694	2971	3335
85°	1402	2492	2492



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.1	3.4
10°-20°	347.6	9.6
20°-30°	520.0	14.4
30°-40°	615.8	17.1
40°-50°	627.6	17.4
50°-60°	562.5	15.6
60°-70°	440.4	12.2
70°-80°	284.0	7.9
80°-90°	83.9	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°	989.7	27.5
0°-40°	1605.6	44.5
0°-60°	2795.7	77.6
0°-90°	3604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3604.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1291	1291	1291	1291	1291	
5°	1278	1281	1288	1290	1291	121
15°	1216	1222	1233	1243	1244	343
25°	1100	1110	1133	1148	1155	506
35°	942	953	985	1016	1026	589
45°	757	774	814	856	868	584
55°	563	582	631	674	693	505
65°	370	392	451	494	515	367
75°	188	217	278	324	341	202
85°	45	62	81	81	81	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1291.4	1291.4	1291.4	1291.4	1291.4
2.5°	1283.0	1286.4	1293.1	1294.8	1294.8
5°	1278.0	1281.3	1288.1	1289.7	1291.4
7.5°	1269.6	1271.2	1279.7	1283.0	1284.7
10°	1256.1	1259.5	1267.9	1272.9	1274.6
12.5°	1237.6	1242.7	1252.8	1259.5	1261.2
15°	1215.8	1222.5	1232.6	1242.7	1244.3
17.5°	1192.2	1198.9	1212.4	1224.2	1227.5
20°	1163.6	1172.0	1187.2	1200.6	1205.7
22.5°	1135.0	1141.8	1160.3	1177.1	1182.1
25°	1099.7	1109.8	1133.4	1148.5	1155.2
27.5°	1062.7	1074.5	1098.0	1118.2	1125.0
30°	1024.1	1035.8	1061.1	1086.3	1094.7
32.5°	983.7	997.2	1027.4	1052.6	1061.1
35°	941.7	953.4	985.4	1015.7	1025.7
37.5°	897.9	908.0	945.0	977.0	987.1
40°	850.9	864.3	903.0	940.0	950.1
42.5°	803.8	818.9	857.6	897.9	908.0
45°	756.7	773.5	813.9	855.9	867.7
47.5°	711.3	724.7	770.1	810.5	827.3
50°	662.5	676.0	719.7	765.1	781.9
52.5°	612.1	630.6	677.7	721.4	741.6
55°	563.3	581.8	630.6	674.3	692.8
57.5°	517.9	533.0	583.5	628.9	647.4
60°	469.2	482.6	536.4	585.2	602.0
62.5°	417.0	437.2	492.7	538.1	558.3
65°	369.9	391.8	450.7	494.4	514.6
67.5°	326.2	346.4	403.6	450.7	472.5
70°	275.8	302.7	361.5	408.6	428.8
72.5°	235.4	259.0	319.5	366.6	388.4
75°	188.3	216.9	277.5	324.5	341.4
77.5°	149.7	178.2	235.4	272.4	280.8
80°	109.3	137.9	191.7	210.2	215.2
82.5°	74.0	100.9	137.9	142.9	144.6
85°	45.4	62.2	80.7	80.7	80.7
87.5°	21.9	25.2	28.6	26.9	26.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)