

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: P312455

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CP187-W2A-U-3000K**

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: P312455  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-20HE-UNV-L83050-HRP-CP187-W2A-U-3000K  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 1385.0 lumens  
Efficiency: N/A  
Efficacy: 82.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

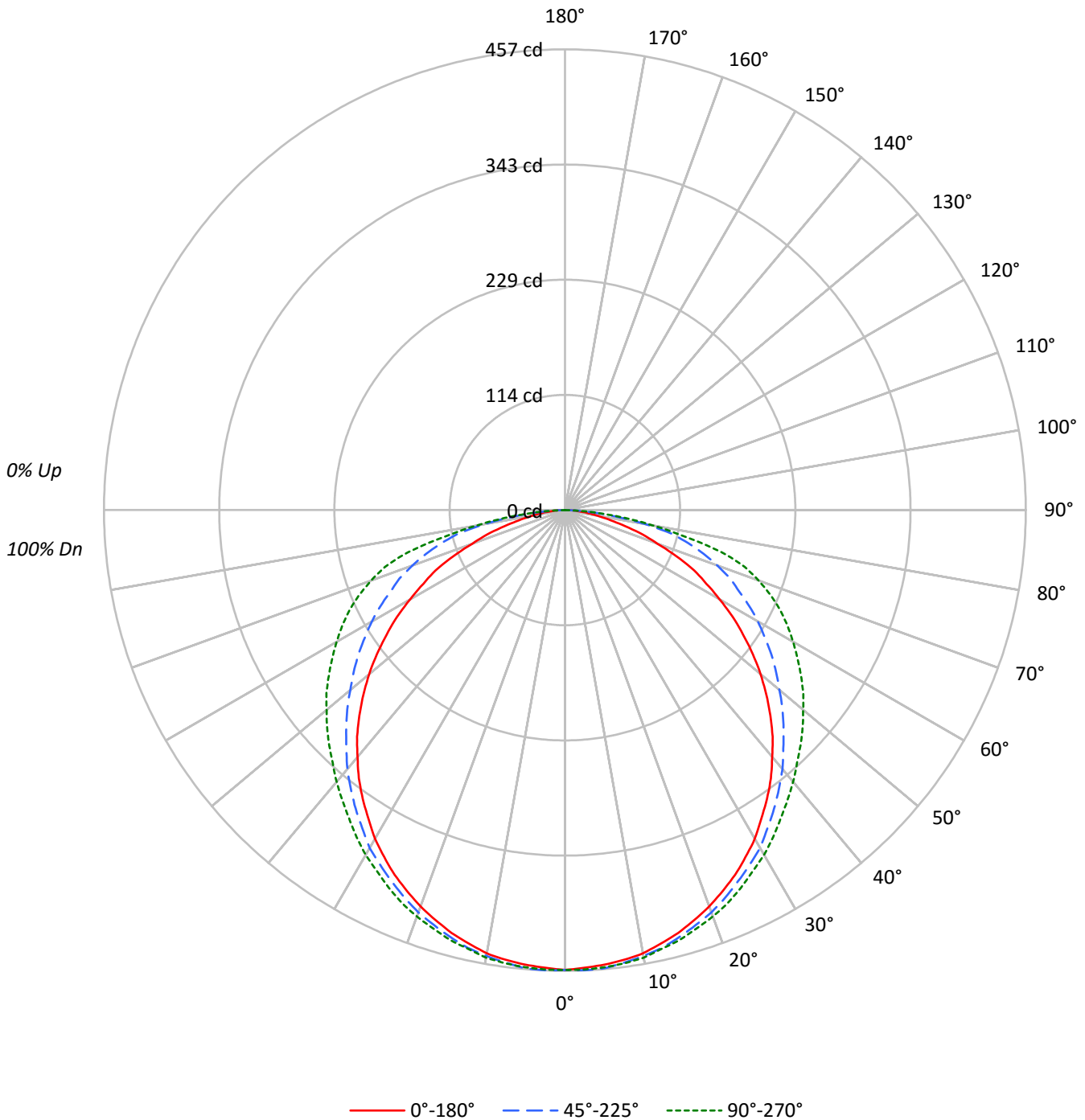
Input Watts (W): 16.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1227	1227	1227
5°	1223	1232	1230
10°	1220	1227	1232
15°	1210	1222	1229
20°	1198	1216	1229
25°	1186	1206	1227
30°	1170	1203	1227
35°	1148	1188	1226
40°	1123	1179	1237
45°	1097	1167	1257
50°	1061	1163	1291
55°	1012	1172	1340
60°	955	1189	1406
65°	901	1213	1502
70°	770	1265	1608
75°	645	1317	1672
80°	528	1272	1395
85°	460	945	1025



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.2	3.1
10°-20°	123.6	8.9
20°-30°	187.4	13.5
30°-40°	226.3	16.3
40°-50°	237.8	17.2
50°-60°	223.7	16.2
60°-70°	186.5	13.5
70°-80°	123.6	8.9
80°-90°	32.9	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°	354.2	25.6
0°-40°	580.5	41.9
0°-60°	1042.0	75.2
0°-90°	1385.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1385.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	456	456	456	456	456	
5°	453	453	456	456	455	43
15°	434	436	439	440	441	122
25°	399	402	406	412	413	184
35°	350	353	362	370	373	219
45°	288	293	307	322	330	222
55°	216	225	250	275	286	193
65°	142	154	190	222	236	138
75°	62	86	127	153	161	67
85°	15	23	31	33	33	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	456.1	456.1	456.1	456.1	456.1
2.5°	454.3	455.2	456.9	456.9	456.1
5°	452.6	453.4	456.1	456.1	455.2
7.5°	449.9	450.8	452.6	454.3	453.4
10°	446.5	447.3	449.1	450.8	450.8
12.5°	440.3	441.2	444.7	445.6	445.6
15°	434.2	436.0	438.6	440.3	441.2
17.5°	426.4	428.1	431.6	435.1	435.1
20°	418.5	420.2	424.6	428.1	429.0
22.5°	408.9	411.5	415.9	420.2	422.0
25°	399.3	401.9	406.3	411.5	413.3
27.5°	387.9	390.5	396.7	402.8	403.6
30°	376.6	379.2	387.0	392.3	394.9
32.5°	362.6	366.1	373.9	381.8	384.4
35°	349.5	353.0	361.7	369.6	373.1
37.5°	335.5	339.0	348.6	358.2	362.6
40°	319.8	324.1	335.5	346.0	352.1
42.5°	304.9	309.3	320.6	334.6	340.7
45°	288.3	292.7	306.7	322.4	330.3
47.5°	270.8	276.1	292.7	311.9	319.8
50°	253.4	259.5	277.8	299.7	308.4
52.5°	235.0	242.9	263.9	287.4	297.9
55°	215.8	225.4	249.9	275.2	285.7
57.5°	197.5	206.2	235.0	262.1	273.5
60°	177.4	188.7	221.0	249.0	261.2
62.5°	158.1	170.4	206.2	235.9	249.0
65°	141.5	153.8	190.5	221.9	235.9
67.5°	119.7	136.3	177.4	207.1	221.0
70°	97.9	120.6	160.8	191.3	204.4
72.5°	81.3	103.1	144.2	174.7	187.0
75°	62.0	86.5	126.7	152.9	160.8
77.5°	46.3	71.6	108.3	121.4	122.3
80°	34.1	55.0	82.1	86.5	90.0
82.5°	23.6	38.4	53.3	58.5	60.3
85°	14.9	22.7	30.6	33.2	33.2
87.5°	7.9	8.7	10.5	10.5	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)