

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: P312456

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-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: P312456  
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-3500K  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (168) 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**

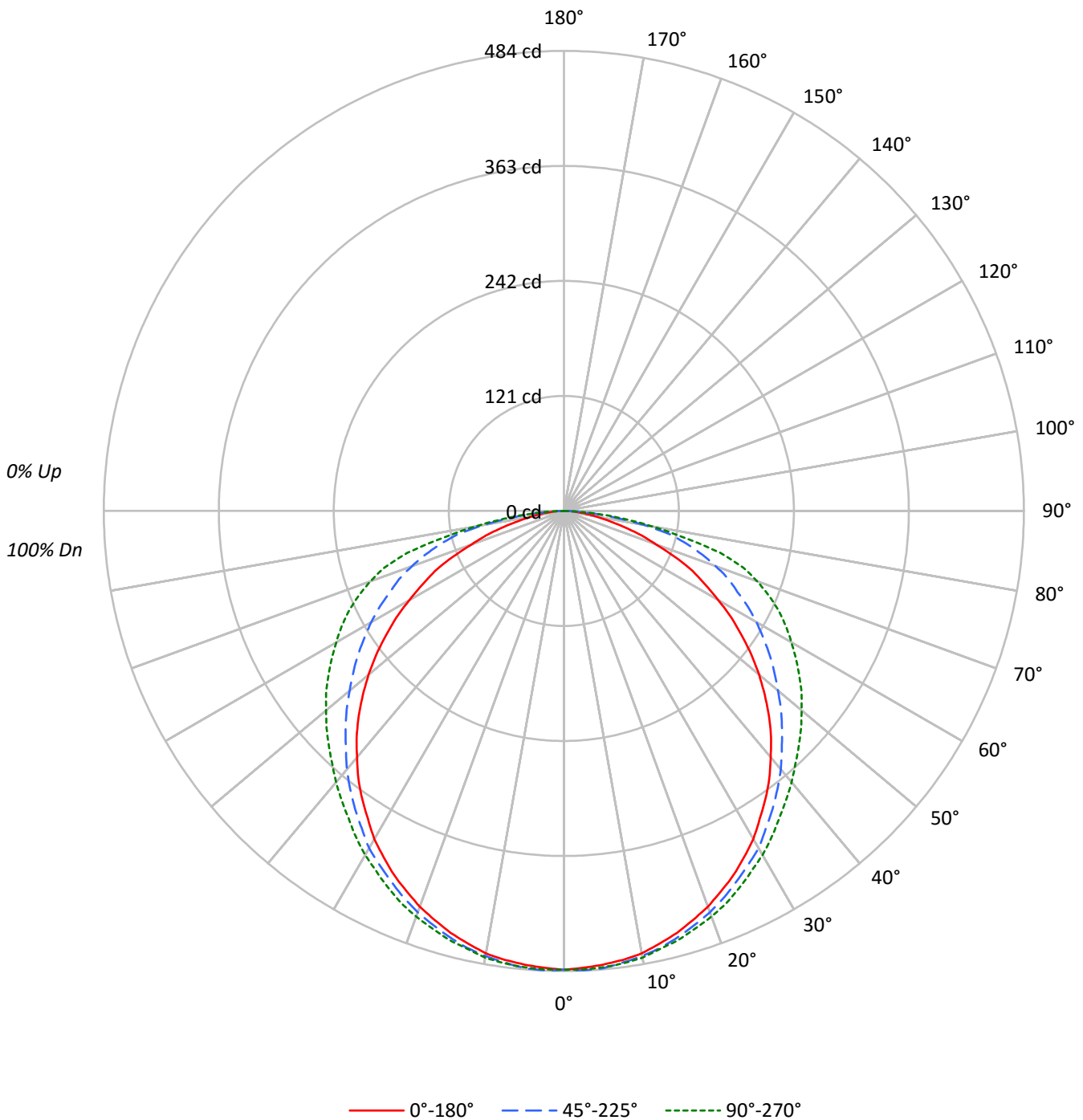
Lumens per Lamp: N/A  
Luminaire Lumens: 1466.0 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.7  
Input Voltage (V): NR  
Input Current (A<sub>in</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°	1299	1299	1299
5°	1294	1304	1301
10°	1291	1299	1304
15°	1280	1293	1301
20°	1269	1287	1300
25°	1255	1277	1299
30°	1239	1273	1299
35°	1215	1258	1297
40°	1189	1247	1309
45°	1161	1235	1330
50°	1123	1231	1366
55°	1072	1241	1419
60°	1010	1259	1488
65°	954	1284	1590
70°	815	1339	1703
75°	683	1394	1770
80°	559	1347	1477
85°	485	1000	1084



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.8	3.1
10°-20°	130.9	8.9
20°-30°	198.3	13.5
30°-40°	239.5	16.3
40°-50°	251.7	17.2
50°-60°	236.8	16.2
60°-70°	197.4	13.5
70°-80°	130.8	8.9
80°-90°	34.9	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°	375.0	25.6
0°-40°	614.5	41.9
0°-60°	1102.9	75.2
0°-90°	1466.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1466.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	479	480	483	483	482	46
15°	460	462	464	466	467	130
25°	423	425	430	436	437	195
35°	370	374	383	391	395	231
45°	305	310	325	341	350	235
55°	228	239	264	291	302	204
65°	150	163	202	235	250	146
75°	66	92	134	162	170	71
85°	16	24	32	35	35	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	482.7	482.7	482.7	482.7	482.7
2.5°	480.9	481.8	483.7	483.7	482.7
5°	479.0	480.0	482.7	482.7	481.8
7.5°	476.3	477.2	479.0	480.9	480.0
10°	472.6	473.5	475.3	477.2	477.2
12.5°	466.1	467.0	470.7	471.6	471.6
15°	459.6	461.5	464.2	466.1	467.0
17.5°	451.3	453.1	456.8	460.5	460.5
20°	443.0	444.8	449.4	453.1	454.1
22.5°	432.8	435.6	440.2	444.8	446.7
25°	422.6	425.4	430.0	435.6	437.4
27.5°	410.6	413.4	419.9	426.3	427.3
30°	398.6	401.4	409.7	415.2	418.0
32.5°	383.8	387.5	395.8	404.1	406.9
35°	369.9	373.6	382.9	391.2	394.9
37.5°	355.1	358.8	369.0	379.2	383.8
40°	338.5	343.1	355.1	366.2	372.7
42.5°	322.7	327.4	339.4	354.2	360.7
45°	305.2	309.8	324.6	341.2	349.6
47.5°	286.7	292.2	309.8	330.1	338.5
50°	268.2	274.7	294.1	317.2	326.4
52.5°	248.8	257.1	279.3	304.3	315.4
55°	228.4	238.6	264.5	291.3	302.4
57.5°	209.0	218.2	248.8	277.4	289.5
60°	187.7	199.8	234.0	263.6	276.5
62.5°	167.4	180.3	218.2	249.7	263.6
65°	149.8	162.8	201.6	234.9	249.7
67.5°	126.7	144.3	187.7	219.2	234.0
70°	103.6	127.6	170.2	202.5	216.4
72.5°	86.0	109.1	152.6	185.0	197.9
75°	65.7	91.6	134.1	161.8	170.2
77.5°	49.0	75.8	114.7	128.5	129.5
80°	36.1	58.3	86.9	91.6	95.3
82.5°	25.0	40.7	56.4	62.0	63.8
85°	15.7	24.0	32.4	35.1	35.1
87.5°	8.3	9.2	11.1	11.1	11.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)