

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: P312457

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CP187-W2A-U-4000K**

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: P312457  
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-4000K  
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"  
POLYCARB SHEET  
Light Source: (168) 4000K 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**

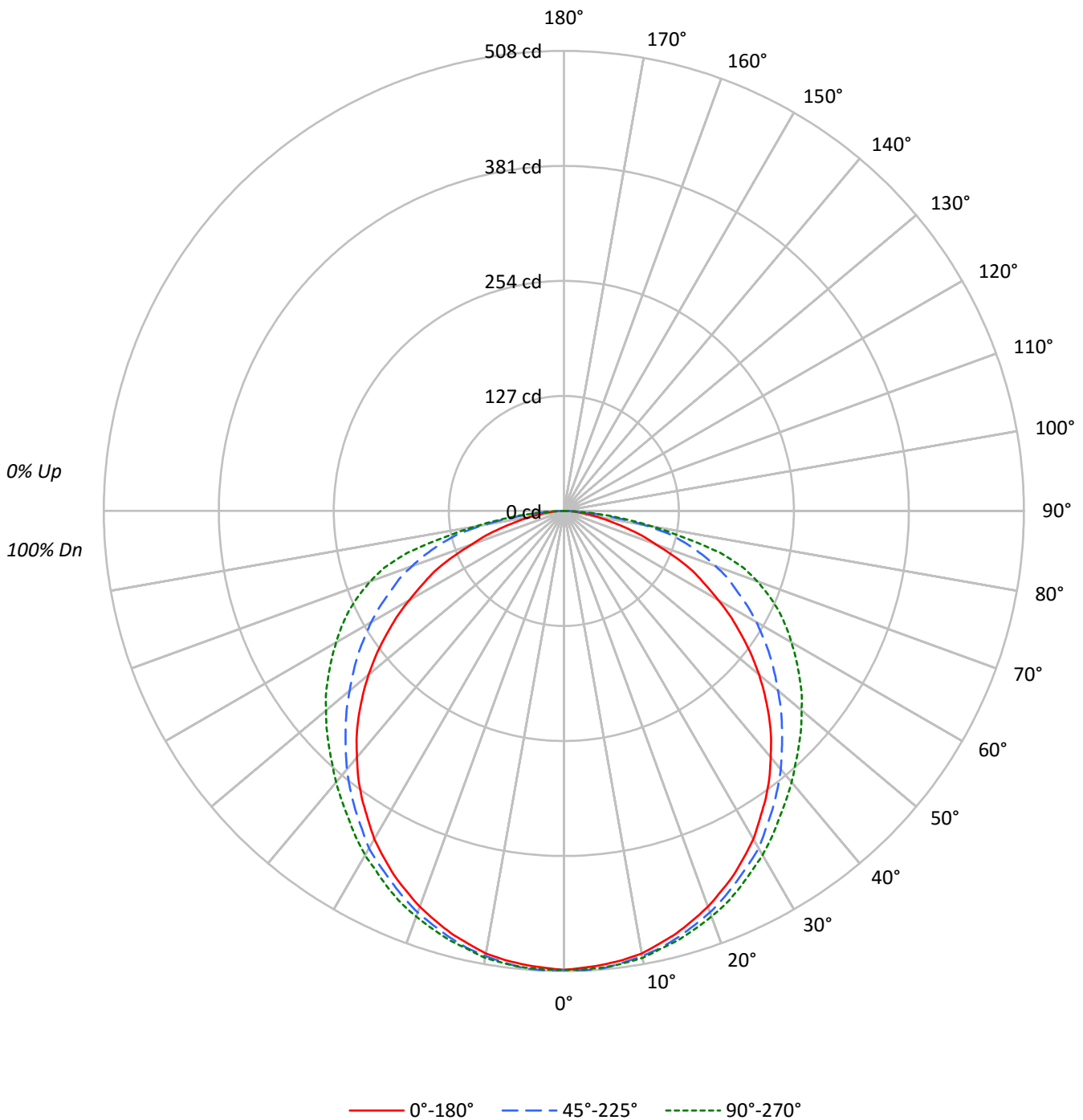
Lumens per Lamp: N/A  
Luminaire Lumens: 1539.0 lumens  
Efficiency: N/A  
Efficacy: 90.0 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	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°	1364	1364	1364
5°	1358	1369	1366
10°	1356	1364	1369
15°	1344	1358	1366
20°	1332	1351	1365
25°	1317	1340	1363
30°	1300	1336	1363
35°	1276	1320	1362
40°	1248	1310	1374
45°	1219	1297	1397
50°	1178	1292	1435
55°	1125	1303	1490
60°	1061	1322	1562
65°	1002	1347	1669
70°	855	1405	1788
75°	716	1464	1857
80°	587	1415	1550
85°	509	1050	1139



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.0	3.1
10°-20°	137.4	8.9
20°-30°	208.2	13.5
30°-40°	251.4	16.3
40°-50°	264.2	17.2
50°-60°	248.6	16.2
60°-70°	207.3	13.5
70°-80°	137.3	8.9
80°-90°	36.6	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°	393.6	25.6
0°-40°	645.1	41.9
0°-60°	1157.8	75.2
0°-90°	1539.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1539.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	507	507	507	507	507	
5°	503	504	507	507	506	48
15°	482	484	487	489	490	136
25°	444	447	451	457	459	204
35°	388	392	402	411	414	243
45°	320	325	341	358	367	247
55°	240	250	278	306	318	215
65°	157	171	212	247	262	153
75°	69	96	141	170	179	75
85°	16	25	34	37	37	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	506.8	506.8	506.8	506.8	506.8
2.5°	504.8	505.8	507.7	507.7	506.8
5°	502.9	503.9	506.8	506.8	505.8
7.5°	500.0	501.0	502.9	504.8	503.9
10°	496.1	497.1	499.0	501.0	501.0
12.5°	489.3	490.3	494.2	495.1	495.1
15°	482.5	484.4	487.4	489.3	490.3
17.5°	473.8	475.7	479.6	483.5	483.5
20°	465.0	467.0	471.8	475.7	476.7
22.5°	454.4	457.3	462.1	467.0	468.9
25°	443.7	446.6	451.4	457.3	459.2
27.5°	431.1	434.0	440.8	447.6	448.5
30°	418.4	421.3	430.1	435.9	438.8
32.5°	402.9	406.8	415.5	424.3	427.2
35°	388.3	392.2	401.9	410.7	414.5
37.5°	372.8	376.7	387.4	398.0	402.9
40°	355.3	360.2	372.8	384.5	391.2
42.5°	338.8	343.7	356.3	371.8	378.6
45°	320.4	325.2	340.8	358.2	367.0
47.5°	301.0	306.8	325.2	346.6	355.3
50°	281.5	288.3	308.7	333.0	342.7
52.5°	261.2	269.9	293.2	319.4	331.1
55°	239.8	250.5	277.7	305.8	317.5
57.5°	219.4	229.1	261.2	291.3	303.9
60°	197.1	209.7	245.6	276.7	290.3
62.5°	175.7	189.3	229.1	262.1	276.7
65°	157.3	170.9	211.6	246.6	262.1
67.5°	133.0	151.5	197.1	230.1	245.6
70°	108.7	134.0	178.6	212.6	227.2
72.5°	90.3	114.6	160.2	194.2	207.8
75°	68.9	96.1	140.8	169.9	178.6
77.5°	51.5	79.6	120.4	134.9	135.9
80°	37.9	61.2	91.3	96.1	100.0
82.5°	26.2	42.7	59.2	65.0	67.0
85°	16.5	25.2	34.0	36.9	36.9
87.5°	8.7	9.7	11.7	11.7	11.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)