

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: P308092

Luminaire Tested: **22FCZ2-20HE-UNV-L82765-HRP-CP187-W2A-U-5000K**

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: P308092
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-L82765-HRP-CP187-W2A-U-5000K
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: 1456.0 lumens
Efficiency: N/A
Efficacy: 85.1 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

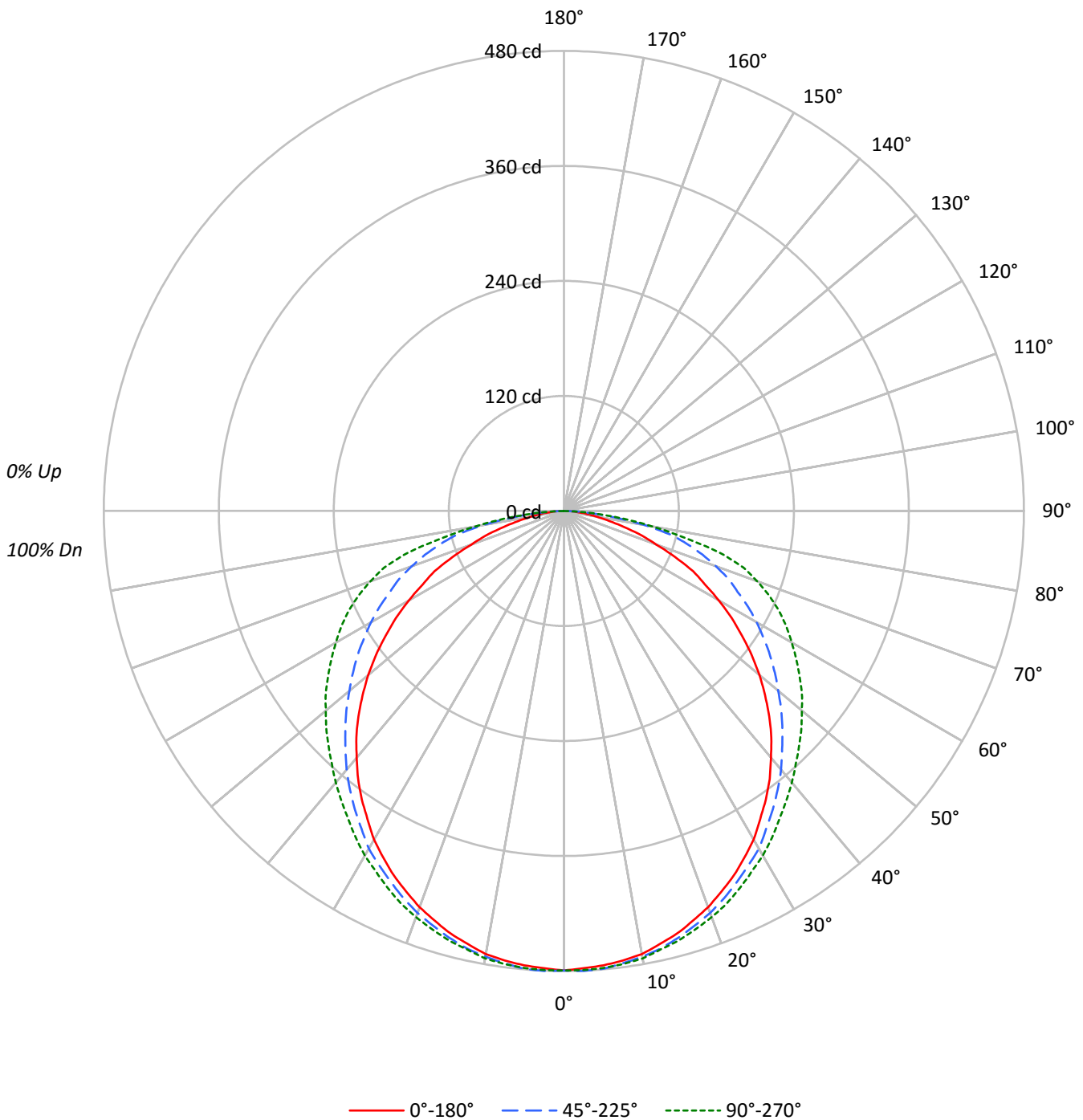
Input Watts (W): 17.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82				82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68				68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56				56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36				36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31				31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28				28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1290	1290	1290
5°	1285	1295	1293
10°	1282	1290	1295
15°	1272	1285	1292
20°	1260	1278	1292
25°	1246	1268	1290
30°	1230	1264	1290
35°	1207	1249	1288
40°	1181	1239	1300
45°	1153	1227	1321
50°	1115	1223	1357
55°	1065	1232	1409
60°	1004	1251	1478
65°	947	1275	1579
70°	810	1330	1691
75°	678	1385	1757
80°	555	1337	1466
85°	482	991	1078



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	3.1
10°-20°	130.0	8.9
20°-30°	197.0	13.5
30°-40°	237.9	16.3
40°-50°	249.9	17.2
50°-60°	235.2	16.2
60°-70°	196.1	13.5
70°-80°	129.9	8.9
80°-90°	34.6	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°	372.4	25.6
0°-40°	610.3	41.9
0°-60°	1095.4	75.2
0°-90°	1456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1456.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	479	479	479	479	479	
5°	476	477	479	479	478	45
15°	456	458	461	463	464	129
25°	420	422	427	433	434	193
35°	367	371	380	388	392	230
45°	303	308	322	339	347	233
55°	227	237	263	289	300	203
65°	149	162	200	233	248	145
75°	65	91	133	161	169	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°	479.4	479.4	479.4	479.4	479.4
2.5°	477.6	478.5	480.4	480.4	479.4
5°	475.8	476.7	479.4	479.4	478.5
7.5°	473.0	473.9	475.8	477.6	476.7
10°	469.3	470.3	472.1	473.9	473.9
12.5°	462.9	463.8	467.5	468.4	468.4
15°	456.5	458.3	461.1	462.9	463.8
17.5°	448.2	450.1	453.7	457.4	457.4
20°	439.9	441.8	446.4	450.1	451.0
22.5°	429.8	432.6	437.2	441.8	443.6
25°	419.7	422.5	427.1	432.6	434.4
27.5°	407.8	410.6	417.0	423.4	424.3
30°	395.9	398.6	406.9	412.4	415.2
32.5°	381.2	384.8	393.1	401.4	404.1
35°	367.4	371.1	380.2	388.5	392.2
37.5°	352.7	356.4	366.5	376.6	381.2
40°	336.2	340.8	352.7	363.7	370.1
42.5°	320.5	325.1	337.1	351.8	358.2
45°	303.1	307.7	322.4	338.9	347.2
47.5°	284.7	290.2	307.7	327.9	336.2
50°	266.4	272.8	292.1	315.0	324.2
52.5°	247.1	255.3	277.4	302.2	313.2
55°	226.9	237.0	262.7	289.3	300.3
57.5°	207.6	216.8	247.1	275.5	287.5
60°	186.5	198.4	232.4	261.8	274.6
62.5°	166.2	179.1	216.8	248.0	261.8
65°	148.8	161.7	200.2	233.3	248.0
67.5°	125.8	143.3	186.5	217.7	232.4
70°	102.9	126.7	169.0	201.1	214.9
72.5°	85.4	108.4	151.5	183.7	196.6
75°	65.2	90.9	133.2	160.7	169.0
77.5°	48.7	75.3	113.9	127.7	128.6
80°	35.8	57.9	86.3	90.9	94.6
82.5°	24.8	40.4	56.0	61.5	63.4
85°	15.6	23.9	32.1	34.9	34.9
87.5°	8.3	9.2	11.0	11.0	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)