

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: P312461

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CP250-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: P312461
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-CP250-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 1454.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

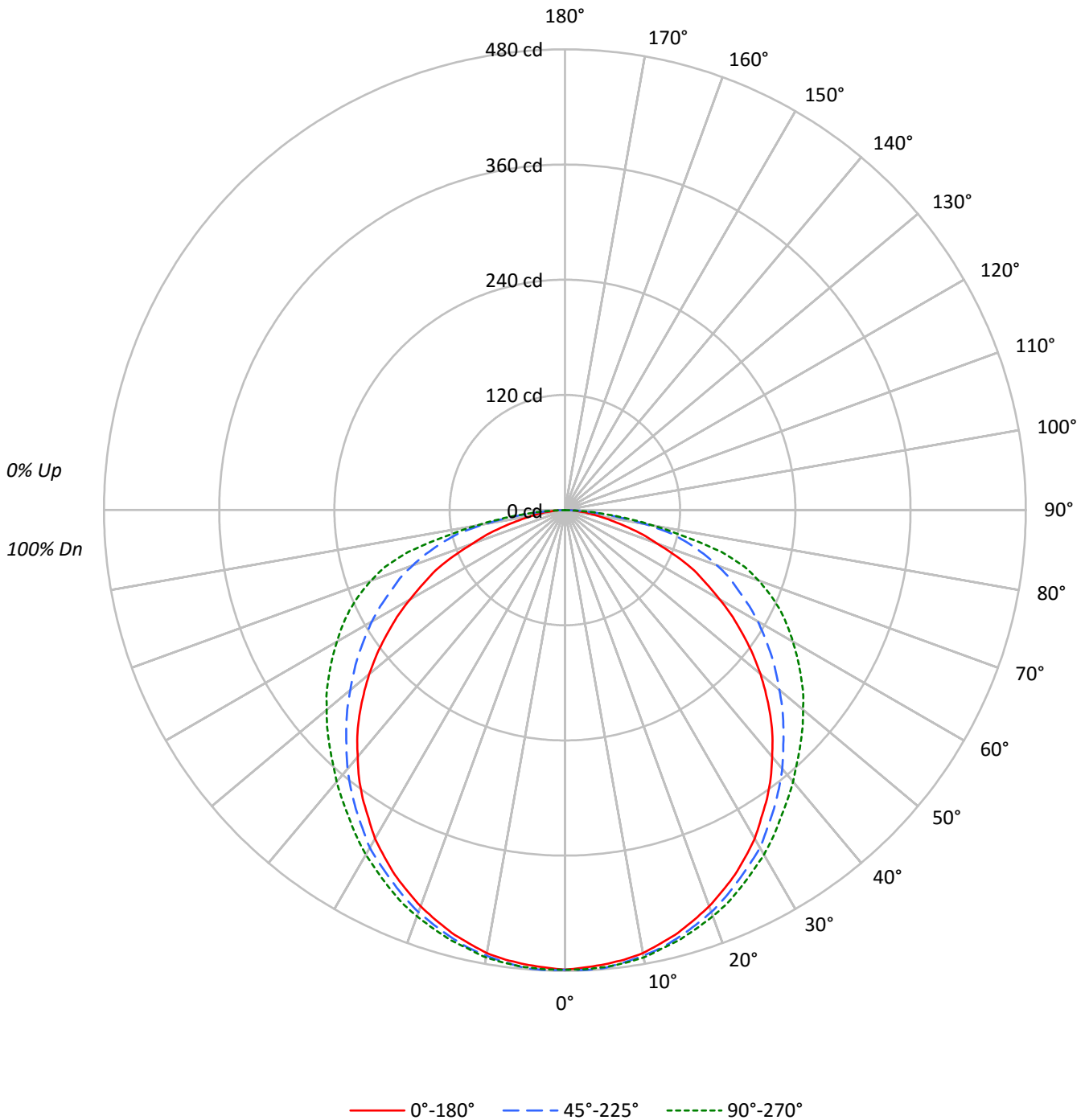
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	83	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°	1288	1288	1288
5°	1283	1293	1291
10°	1281	1288	1293
15°	1270	1283	1290
20°	1258	1277	1290
25°	1245	1266	1288
30°	1228	1262	1288
35°	1205	1247	1287
40°	1179	1237	1298
45°	1152	1225	1319
50°	1114	1221	1356
55°	1063	1231	1407
60°	1002	1249	1476
65°	946	1273	1577
70°	808	1328	1688
75°	677	1383	1755
80°	555	1336	1464
85°	482	991	1078



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	3.1
10°-20°	129.8	8.9
20°-30°	196.7	13.5
30°-40°	237.5	16.3
40°-50°	249.6	17.2
50°-60°	234.8	16.2
60°-70°	195.8	13.5
70°-80°	129.7	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°	371.9	25.6
0°-40°	609.4	41.9
0°-60°	1093.9	75.2
0°-90°	1454.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1454.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	479	479	479	479	479	
5°	475	476	479	479	478	45
15°	456	458	460	462	463	129
25°	419	422	426	432	434	193
35°	367	371	380	388	392	229
45°	303	307	322	338	347	233
55°	227	237	262	289	300	203
65°	149	161	200	233	248	145
75°	65	91	133	160	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°	478.8	478.8	478.8	478.8	478.8
2.5°	477.0	477.9	479.7	479.7	478.8
5°	475.1	476.0	478.8	478.8	477.9
7.5°	472.4	473.3	475.1	477.0	476.0
10°	468.7	469.6	471.4	473.3	473.3
12.5°	462.3	463.2	466.9	467.8	467.8
15°	455.9	457.7	460.4	462.3	463.2
17.5°	447.6	449.4	453.1	456.8	456.8
20°	439.3	441.2	445.8	449.4	450.4
22.5°	429.3	432.0	436.6	441.2	443.0
25°	419.2	421.9	426.5	432.0	433.8
27.5°	407.2	410.0	416.4	422.8	423.8
30°	395.3	398.1	406.3	411.8	414.6
32.5°	380.6	384.3	392.6	400.8	403.6
35°	366.9	370.6	379.7	388.0	391.7
37.5°	352.2	355.9	366.0	376.1	380.6
40°	335.7	340.3	352.2	363.2	369.6
42.5°	320.1	324.7	336.6	351.3	357.7
45°	302.7	307.3	321.9	338.5	346.7
47.5°	284.3	289.8	307.3	327.4	335.7
50°	266.0	272.4	291.7	314.6	323.8
52.5°	246.7	255.0	277.0	301.8	312.8
55°	226.6	236.6	262.3	288.9	299.9
57.5°	207.3	216.5	246.7	275.2	287.1
60°	186.2	198.1	232.1	261.4	274.2
62.5°	166.0	178.9	216.5	247.6	261.4
65°	148.6	161.4	200.0	233.0	247.6
67.5°	125.7	143.1	186.2	217.4	232.1
70°	102.7	126.6	168.8	200.9	214.6
72.5°	85.3	108.2	151.3	183.4	196.3
75°	65.1	90.8	133.0	160.5	168.8
77.5°	48.6	75.2	113.7	127.5	128.4
80°	35.8	57.8	86.2	90.8	94.5
82.5°	24.8	40.4	56.0	61.5	63.3
85°	15.6	23.8	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)