

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: P312458

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CP187-W2A-U-4500K**

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: P312458
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-4500K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 4500K 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: 1554.0 lumens
Efficiency: N/A
Efficacy: 88.8 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

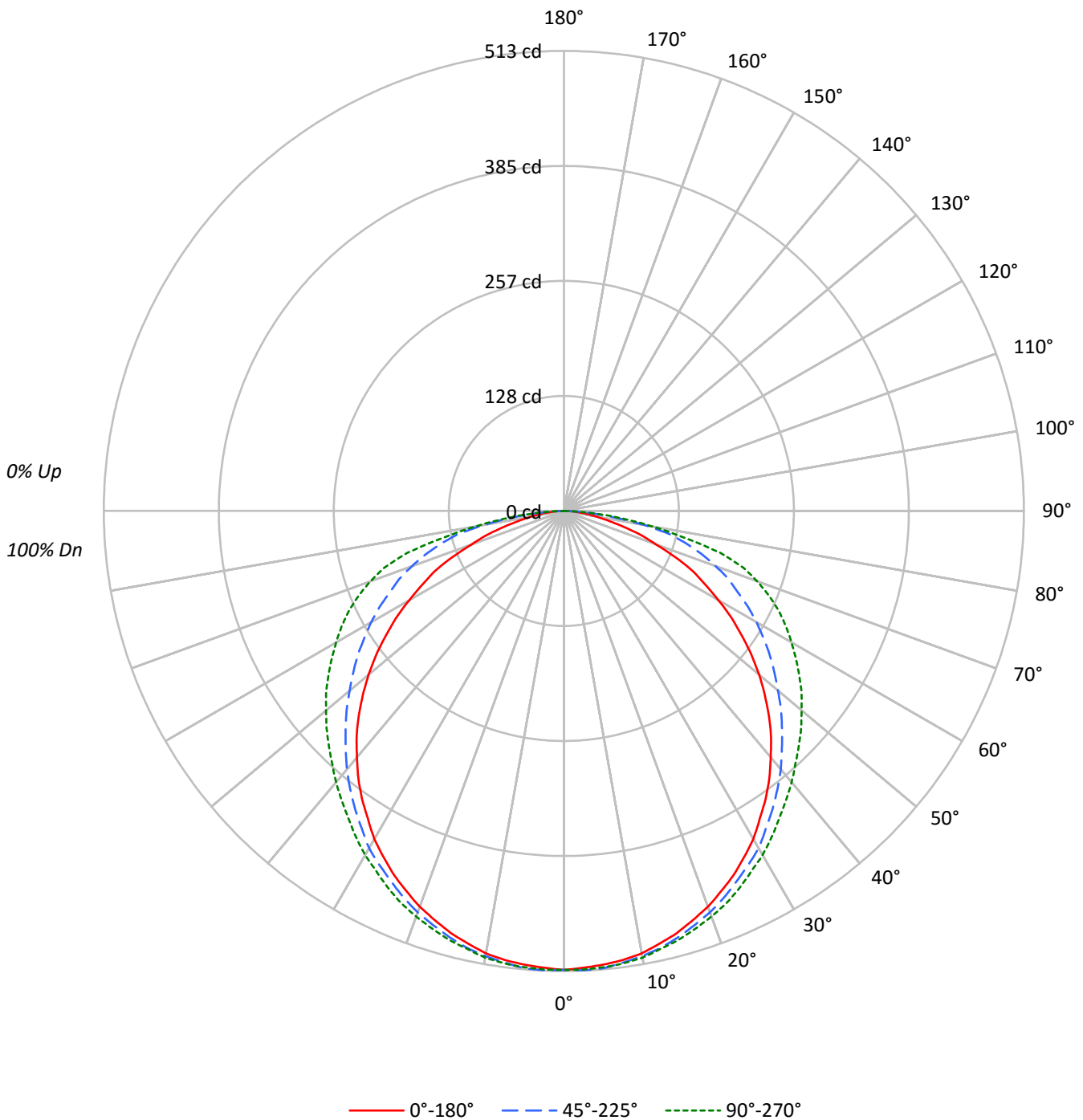
Input Watts (W): 17.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1377	1377	1377
5°	1372	1382	1380
10°	1369	1377	1382
15°	1357	1371	1379
20°	1345	1364	1378
25°	1330	1353	1377
30°	1313	1349	1377
35°	1288	1333	1375
40°	1260	1322	1388
45°	1231	1310	1410
50°	1190	1305	1449
55°	1136	1316	1504
60°	1071	1335	1577
65°	1011	1361	1685
70°	864	1419	1805
75°	724	1477	1876
80°	592	1427	1565
85°	516	1059	1152



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.5	3.1
10°-20°	138.7	8.9
20°-30°	210.2	13.5
30°-40°	253.9	16.3
40°-50°	266.8	17.2
50°-60°	251.0	16.2
60°-70°	209.3	13.5
70°-80°	138.7	8.9
80°-90°	37.0	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°	397.5	25.6
0°-40°	651.3	41.9
0°-60°	1169.1	75.2
0°-90°	1554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	512	512	512	512	512	
5°	508	509	512	512	511	48
15°	487	489	492	494	495	137
25°	448	451	456	462	464	206
35°	392	396	406	415	419	245
45°	324	328	344	362	371	249
55°	242	253	280	309	321	217
65°	159	172	214	249	265	155
75°	70	97	142	172	180	76
85°	17	26	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°	511.7	511.7	511.7	511.7	511.7
2.5°	509.8	510.7	512.7	512.7	511.7
5°	507.8	508.8	511.7	511.7	510.7
7.5°	504.9	505.8	507.8	509.8	508.8
10°	500.9	501.9	503.9	505.8	505.8
12.5°	494.1	495.0	499.0	500.0	500.0
15°	487.2	489.2	492.1	494.1	495.0
17.5°	478.4	480.3	484.3	488.2	488.2
20°	469.6	471.5	476.4	480.3	481.3
22.5°	458.8	461.7	466.6	471.5	473.5
25°	448.0	450.9	455.8	461.7	463.7
27.5°	435.3	438.2	445.1	451.9	452.9
30°	422.5	425.4	434.3	440.2	443.1
32.5°	406.8	410.7	419.6	428.4	431.3
35°	392.1	396.0	405.8	414.7	418.6
37.5°	376.4	380.4	391.1	401.9	406.8
40°	358.8	363.7	376.4	388.2	395.1
42.5°	342.1	347.0	359.8	375.5	382.3
45°	323.5	328.4	344.1	361.7	370.6
47.5°	303.9	309.8	328.4	350.0	358.8
50°	284.3	291.1	311.7	336.2	346.0
52.5°	263.7	272.5	296.0	322.5	334.3
55°	242.1	252.9	280.4	308.8	320.6
57.5°	221.5	231.3	263.7	294.1	306.8
60°	199.0	211.7	248.0	279.4	293.1
62.5°	177.4	191.2	231.3	264.7	279.4
65°	158.8	172.5	213.7	249.0	264.7
67.5°	134.3	152.9	199.0	232.3	248.0
70°	109.8	135.3	180.4	214.7	229.4
72.5°	91.2	115.7	161.7	196.1	209.8
75°	69.6	97.0	142.1	171.6	180.4
77.5°	52.0	80.4	121.6	136.3	137.2
80°	38.2	61.8	92.1	97.0	101.0
82.5°	26.5	43.1	59.8	65.7	67.6
85°	16.7	25.5	34.3	37.3	37.3
87.5°	8.8	9.8	11.8	11.8	11.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)