

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: P312462

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CP250-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: P312462
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-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 1527.0 lumens
Efficiency: N/A
Efficacy: 89.3 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

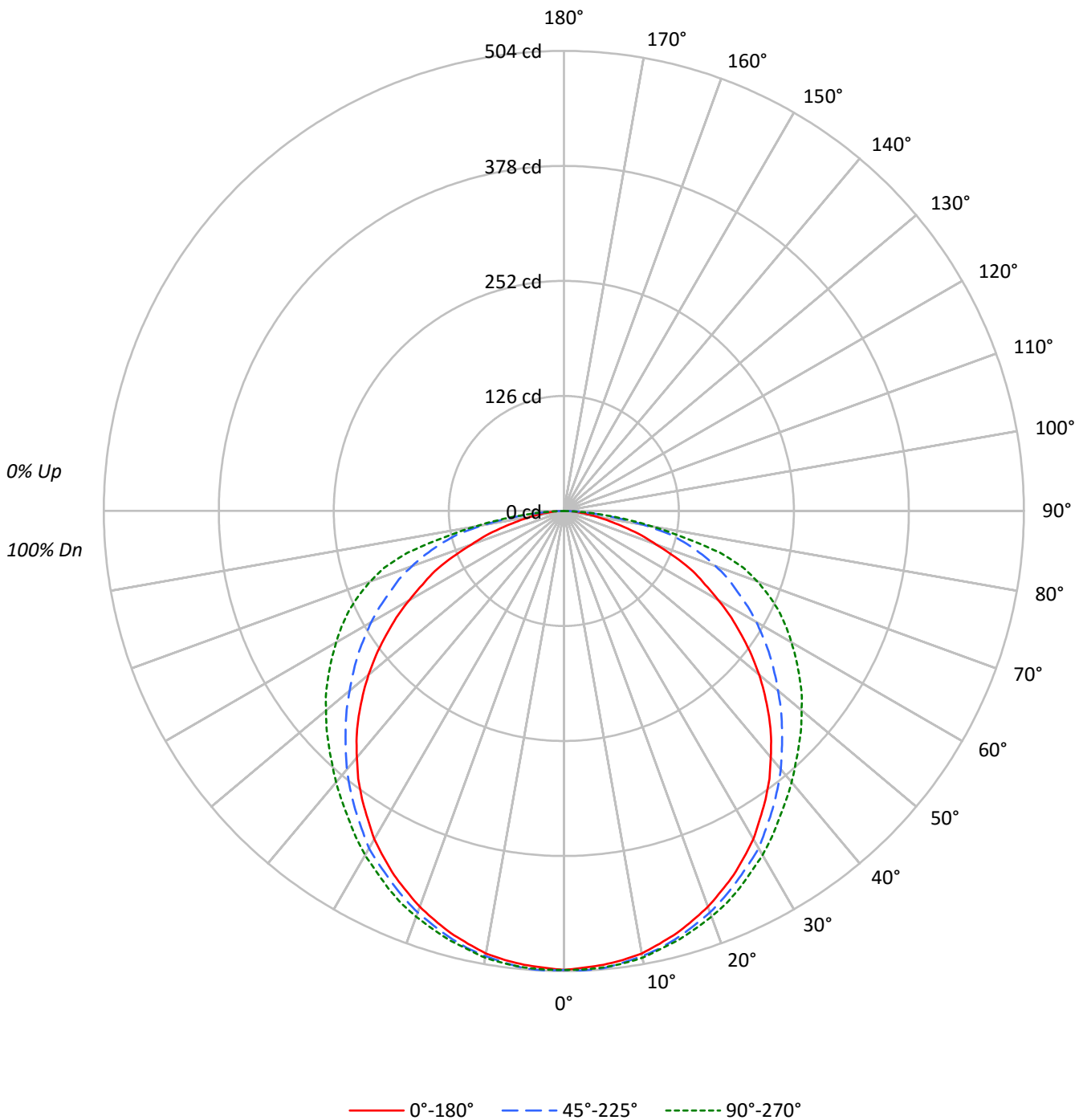
Input Watts (W): 17.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1353	1353	1353
5°	1348	1358	1356
10°	1345	1353	1358
15°	1334	1347	1355
20°	1321	1340	1355
25°	1307	1330	1353
30°	1290	1326	1353
35°	1266	1310	1351
40°	1239	1299	1364
45°	1210	1287	1386
50°	1169	1282	1423
55°	1116	1293	1478
60°	1052	1312	1550
65°	993	1337	1656
70°	849	1394	1773
75°	711	1452	1842
80°	583	1402	1537
85°	506	1041	1130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.7	3.1
10°-20°	136.3	8.9
20°-30°	206.6	13.5
30°-40°	249.5	16.3
40°-50°	262.1	17.2
50°-60°	246.6	16.2
60°-70°	205.6	13.5
70°-80°	136.3	8.9
80°-90°	36.3	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°	390.6	25.6
0°-40°	640.0	41.9
0°-60°	1148.8	75.2
0°-90°	1527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1527.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	503	503	503	503	503	
5°	499	500	503	503	502	47
15°	479	481	484	486	486	135
25°	440	443	448	454	456	203
35°	385	389	399	408	411	241
45°	318	323	338	355	364	245
55°	238	248	276	303	315	213
65°	156	170	210	245	260	152
75°	68	95	140	169	177	74
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°	502.8	502.8	502.8	502.8	502.8
2.5°	500.9	501.9	503.8	503.8	502.8
5°	499.0	499.9	502.8	502.8	501.9
7.5°	496.1	497.0	499.0	500.9	499.9
10°	492.2	493.2	495.1	497.0	497.0
12.5°	485.5	486.4	490.3	491.3	491.3
15°	478.7	480.7	483.6	485.5	486.4
17.5°	470.1	472.0	475.9	479.7	479.7
20°	461.4	463.3	468.1	472.0	473.0
22.5°	450.8	453.7	458.5	463.3	465.3
25°	440.2	443.1	447.9	453.7	455.6
27.5°	427.7	430.6	437.3	444.1	445.0
30°	415.2	418.1	426.7	432.5	435.4
32.5°	399.8	403.6	412.3	420.9	423.8
35°	385.3	389.2	398.8	407.5	411.3
37.5°	369.9	373.7	384.3	394.9	399.8
40°	352.6	357.4	369.9	381.5	388.2
42.5°	336.2	341.0	353.5	368.9	375.7
45°	317.9	322.7	338.1	355.4	364.1
47.5°	298.6	304.4	322.7	343.9	352.6
50°	279.3	286.1	306.3	330.4	340.0
52.5°	259.1	267.8	290.9	316.9	328.5
55°	237.9	248.5	275.5	303.4	315.0
57.5°	217.7	227.3	259.1	289.0	301.5
60°	195.5	208.1	243.7	274.5	288.0
62.5°	174.4	187.8	227.3	260.1	274.5
65°	156.0	169.5	210.0	244.7	260.1
67.5°	132.0	150.3	195.5	228.3	243.7
70°	107.9	132.9	177.2	211.0	225.4
72.5°	89.6	113.7	158.9	192.7	206.1
75°	68.4	95.4	139.7	168.6	177.2
77.5°	51.1	79.0	119.4	133.9	134.9
80°	37.6	60.7	90.5	95.4	99.2
82.5°	26.0	42.4	58.8	64.5	66.5
85°	16.4	25.0	33.7	36.6	36.6
87.5°	8.7	9.6	11.6	11.6	11.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)