

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: P313808

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-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: P313808
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30HE-UNV-L83050-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2784.0 lumens
Efficiency: N/A
Efficacy: 126.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

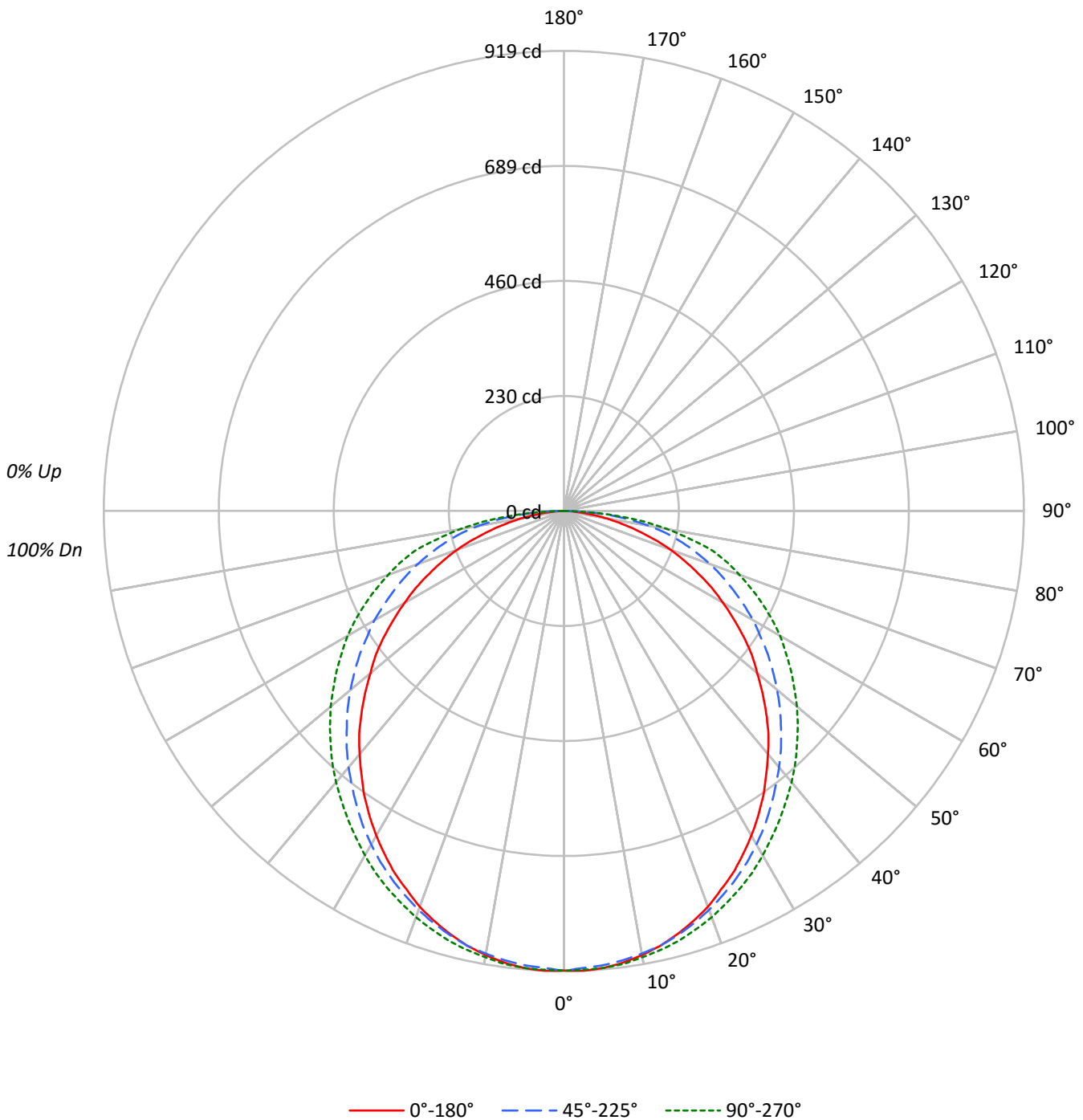
Input Watts (W): 22.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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°	1235	1235	1235
5°	1238	1230	1238
10°	1230	1227	1237
15°	1220	1222	1238
20°	1205	1214	1237
25°	1186	1205	1235
30°	1164	1195	1234
35°	1141	1183	1235
40°	1115	1175	1243
45°	1088	1167	1253
50°	1056	1164	1272
55°	1029	1166	1298
60°	989	1176	1342
65°	944	1188	1391
70°	894	1225	1468
75°	797	1277	1604
80°	680	1353	1639
85°	485	1340	1568



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.9	3.1
10°-20°	248.5	8.9
20°-30°	375.3	13.5
30°-40°	452.3	16.2
40°-50°	474.8	17.1
50°-60°	444.2	16.0
60°-70°	366.9	13.2
70°-80°	250.0	9.0
80°-90°	85.2	3.1
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°	710.6	25.5
0°-40°	1162.9	41.8
0°-60°	2081.9	74.8
0°-90°	2784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2784.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	918	918	918	918	918	
5°	916	915	911	916	916	87
15°	876	877	878	887	889	247
25°	799	803	812	828	832	368
35°	695	702	720	744	752	434
45°	572	584	613	647	659	441
55°	439	456	497	538	553	392
65°	296	321	373	420	437	294
75°	153	188	246	292	308	163
85°	31	62	87	98	102	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	<i>918.1</i>	918.1	918.1	918.1	918.1
2.5°	<i>919.1</i>	<i>918.1</i>	<i>913.5</i>	<i>918.1</i>	<i>917.2</i>
5°	<i>916.3</i>	915.4	910.7	916.3	916.3
7.5°	<i>909.8</i>	909.8	905.2	911.7	912.6
10°	<i>900.6</i>	900.6	897.8	905.2	905.2
12.5°	<i>889.5</i>	889.5	889.5	896.9	897.8
15°	<i>875.6</i>	876.6	877.5	886.7	888.6
17.5°	<i>859.0</i>	860.9	863.6	874.7	876.6
20°	<i>841.5</i>	843.3	847.9	860.9	863.6
22.5°	<i>819.3</i>	823.9	830.4	845.2	847.9
25°	<i>799.0</i>	802.7	811.9	827.6	832.2
27.5°	<i>774.0</i>	779.6	791.6	808.2	814.7
30°	<i>749.1</i>	754.6	769.4	788.8	794.4
32.5°	<i>722.3</i>	730.6	746.3	766.7	773.1
35°	<i>694.6</i>	702.0	720.5	744.5	751.9
37.5°	<i>664.1</i>	674.3	694.6	720.5	729.7
40°	<i>634.6</i>	645.7	668.7	696.5	707.5
42.5°	<i>605.0</i>	616.1	642.0	673.4	684.4
45°	<i>571.8</i>	583.8	613.3	646.6	658.6
47.5°	<i>538.5</i>	553.3	585.6	620.7	633.6
50°	<i>504.3</i>	521.0	556.1	593.0	607.8
52.5°	<i>473.8</i>	489.6	526.5	566.2	580.1
55°	<i>438.7</i>	456.3	496.9	537.6	553.3
57.5°	<i>402.7</i>	422.1	465.5	509.9	525.6
60°	<i>367.6</i>	388.9	436.9	481.2	498.8
62.5°	<i>333.4</i>	354.7	404.6	450.8	468.3
65°	<i>296.5</i>	321.4	373.2	420.3	436.9
67.5°	<i>261.4</i>	288.2	342.7	388.9	405.5
70°	<i>227.2</i>	253.1	311.3	356.5	373.2
72.5°	<i>190.3</i>	219.8	278.0	325.1	342.7
75°	<i>153.3</i>	188.4	245.7	291.9	308.5
77.5°	<i>119.2</i>	155.2	212.4	250.3	258.6
80°	<i>87.7</i>	124.7	174.6	201.4	211.5
82.5°	<i>56.3</i>	93.3	133.0	152.4	160.7
85°	<i>31.4</i>	61.9	86.8	97.9	101.6
87.5°	<i>12.9</i>	26.8	35.1	39.7	39.7
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)