

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: P313810

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-CP250-W2A-U-3000K**

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: P313810
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 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: 2462.0 lumens
Efficiency: N/A
Efficacy: 116.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

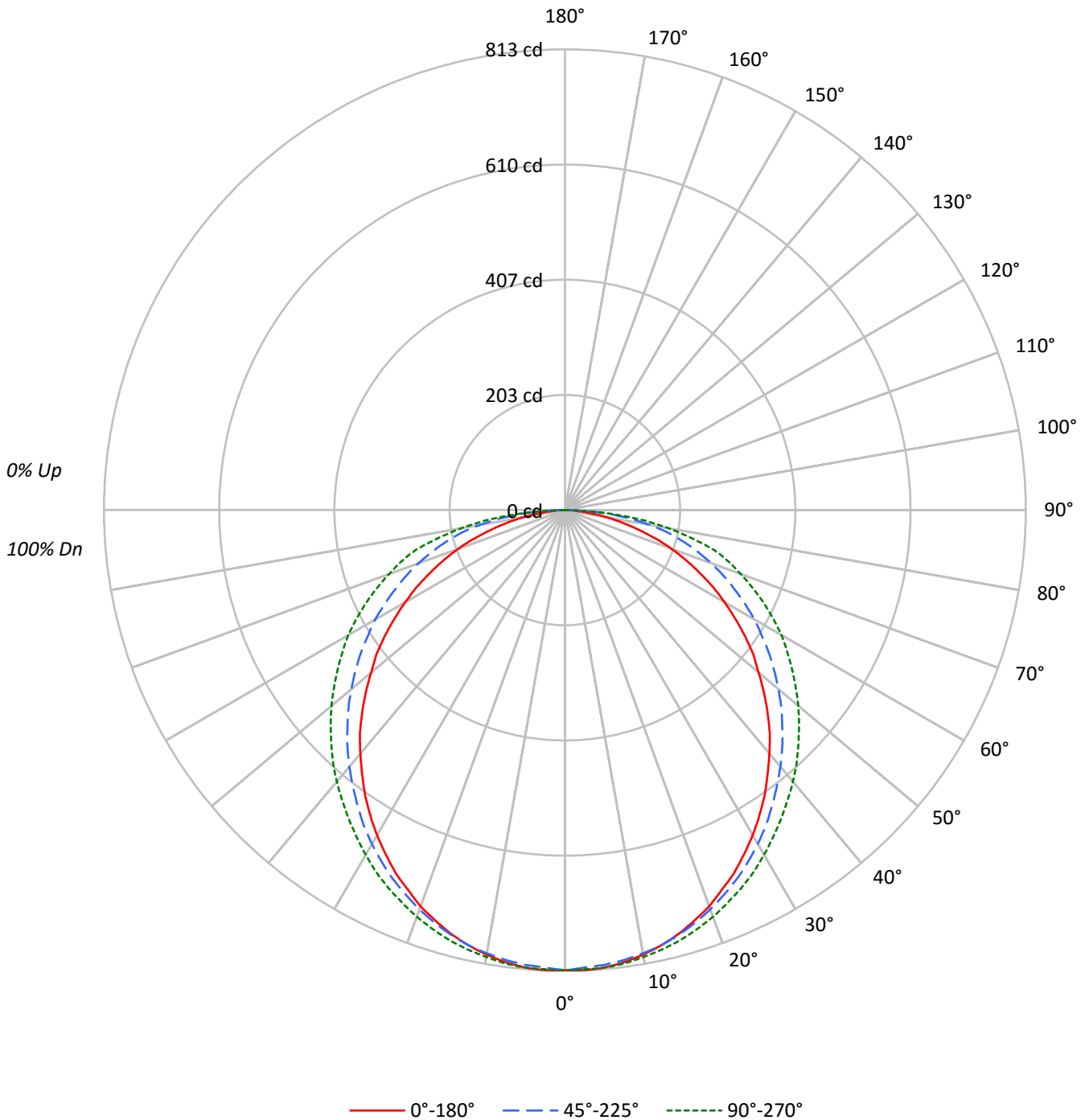
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1092	1092	1092
5°	1094	1088	1094
10°	1088	1085	1094
15°	1079	1081	1095
20°	1065	1074	1094
25°	1049	1066	1093
30°	1029	1057	1091
35°	1009	1046	1092
40°	986	1039	1099
45°	962	1032	1108
50°	934	1029	1125
55°	910	1031	1148
60°	875	1040	1187
65°	835	1051	1230
70°	790	1083	1298
75°	705	1130	1418
80°	601	1196	1450
85°	429	1186	1388



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.8	3.1
10°-20°	219.7	8.9
20°-30°	331.9	13.5
30°-40°	400.0	16.2
40°-50°	419.9	17.1
50°-60°	392.8	16.0
60°-70°	324.4	13.2
70°-80°	221.1	9.0
80°-90°	75.4	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°	628.4	25.5
0°-40°	1028.4	41.8
0°-60°	1841.1	74.8
0°-90°	2462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	812	812	812	812	812	
5°	810	810	805	810	810	77
15°	774	775	776	784	786	218
25°	707	710	718	732	736	325
35°	614	621	637	658	665	384
45°	506	516	542	572	582	390
55°	388	404	440	475	489	346
65°	262	284	330	372	386	260
75°	136	167	217	258	273	145
85°	28	55	77	87	90	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	811.9	811.9	811.9	811.9	811.9
2.5°	812.8	811.9	807.9	811.9	811.1
5°	810.3	809.5	805.4	810.3	810.3
7.5°	804.6	804.6	800.5	806.2	807.0
10°	796.4	796.4	794.0	800.5	800.5
12.5°	786.6	786.6	786.6	793.2	794.0
15°	774.4	775.2	776.0	784.2	785.8
17.5°	759.7	761.3	763.8	773.6	775.2
20°	744.1	745.8	749.9	761.3	763.8
22.5°	724.5	728.6	734.3	747.4	749.9
25°	706.6	709.8	718.0	731.9	736.0
27.5°	684.5	689.4	700.0	714.7	720.5
30°	662.5	667.4	680.4	697.6	702.5
32.5°	638.8	646.1	660.0	678.0	683.7
35°	614.3	620.8	637.1	658.4	664.9
37.5°	587.3	596.3	614.3	637.1	645.3
40°	561.2	571.0	591.4	615.9	625.7
42.5°	535.0	544.8	567.7	595.5	605.3
45°	505.6	516.2	542.4	571.8	582.4
47.5°	476.2	489.3	517.9	548.9	560.4
50°	446.0	460.7	491.7	524.4	537.5
52.5°	419.0	432.9	465.6	500.7	513.0
55°	388.0	403.5	439.5	475.4	489.3
57.5°	356.1	373.3	411.7	450.9	464.8
60°	325.1	343.9	386.4	425.6	441.1
62.5°	294.9	313.7	357.8	398.6	414.1
65°	262.2	284.3	330.0	371.7	386.4
67.5°	231.2	254.9	303.1	343.9	358.6
70°	200.9	223.8	275.3	315.3	330.0
72.5°	168.3	194.4	245.9	287.5	303.1
75°	135.6	166.6	217.3	258.1	272.8
77.5°	105.4	137.2	187.9	221.4	228.7
80°	77.6	110.3	154.4	178.1	187.1
82.5°	49.8	82.5	117.6	134.8	142.1
85°	27.8	54.7	76.8	86.6	89.9
87.5°	11.4	23.7	31.0	35.1	35.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)