

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: P310519

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-CP187-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: P310519
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-L82765-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2565.0 lumens
Efficiency: N/A
Efficacy: 121.0 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

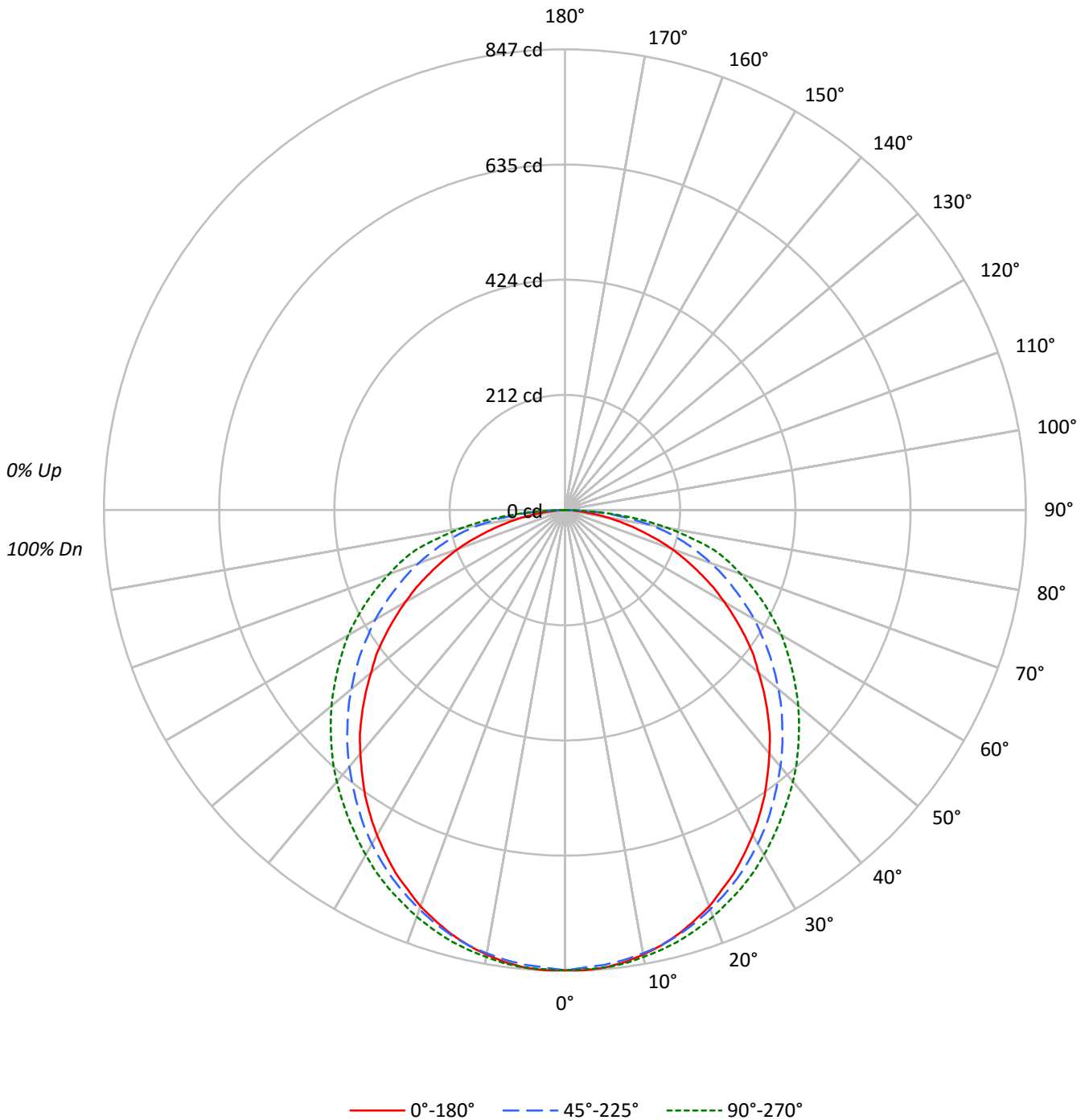
Input Watts (W): 21.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1138	1138	1138
5°	1140	1133	1140
10°	1134	1130	1139
15°	1124	1126	1140
20°	1110	1119	1139
25°	1093	1110	1138
30°	1072	1101	1137
35°	1051	1090	1138
40°	1027	1082	1145
45°	1002	1075	1155
50°	973	1072	1172
55°	948	1074	1196
60°	911	1083	1237
65°	870	1095	1281
70°	824	1128	1352
75°	735	1177	1477
80°	626	1246	1510
85°	446	1235	1445



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.1	3.1
10°-20°	228.9	8.9
20°-30°	345.7	13.5
30°-40°	416.7	16.2
40°-50°	437.5	17.1
50°-60°	409.3	16.0
60°-70°	338.0	13.2
70°-80°	230.3	9.0
80°-90°	78.5	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°	654.7	25.5
0°-40°	1071.4	41.8
0°-60°	1918.2	74.8
0°-90°	2565.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2565.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	846	846	846	846	846	
5°	844	843	839	844	844	80
15°	807	808	808	817	819	227
25°	736	740	748	762	767	339
35°	640	647	664	686	693	400
45°	527	538	565	596	607	406
55°	404	420	458	495	510	361
65°	273	296	344	387	402	271
75°	141	174	226	269	284	151
85°	29	57	80	90	94	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	845.9	845.9	845.9	845.9	845.9
2.5°	846.8	845.9	841.7	845.9	845.1
5°	844.2	843.4	839.1	844.2	844.2
7.5°	838.3	838.3	834.0	840.0	840.8
10°	829.7	829.7	827.2	834.0	834.0
12.5°	819.5	819.5	819.5	826.3	827.2
15°	806.8	807.6	808.5	817.0	818.7
17.5°	791.4	793.2	795.7	805.9	807.6
20°	775.3	777.0	781.2	793.2	795.7
22.5°	754.9	759.1	765.1	778.7	781.2
25°	736.1	739.5	748.0	762.5	766.8
27.5°	713.2	718.3	729.3	744.6	750.6
30°	690.2	695.3	708.9	726.8	731.9
32.5°	665.5	673.2	687.6	706.3	712.3
35°	640.0	646.8	663.8	685.9	692.7
37.5°	611.9	621.2	640.0	663.8	672.3
40°	584.7	594.9	616.1	641.7	651.9
42.5°	557.4	567.6	591.5	620.4	630.6
45°	526.8	537.8	565.1	595.7	606.8
47.5°	496.1	509.8	539.5	571.9	583.8
50°	464.7	480.0	512.3	546.4	560.0
52.5°	436.6	451.0	485.1	521.7	534.4
55°	404.2	420.4	457.8	495.3	509.8
57.5°	371.0	388.9	428.9	469.8	484.2
60°	338.7	358.3	402.5	443.4	459.6
62.5°	307.2	326.8	372.7	415.3	431.5
65°	273.2	296.2	343.8	387.2	402.5
67.5°	240.8	265.5	315.7	358.3	373.6
70°	209.4	233.2	286.8	328.5	343.8
72.5°	175.3	202.5	256.2	299.6	315.7
75°	141.3	173.6	226.4	268.9	284.2
77.5°	109.8	143.0	195.7	230.6	238.3
80°	80.8	114.9	160.8	185.5	194.9
82.5°	51.9	86.0	122.5	140.4	148.1
85°	28.9	57.0	80.0	90.2	93.6
87.5°	11.9	24.7	32.3	36.6	36.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)