

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: P313182

Luminaire Tested: **24FCZ2-40-UNV-L83050-HRP-CP187-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: P313182
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L83050-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
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

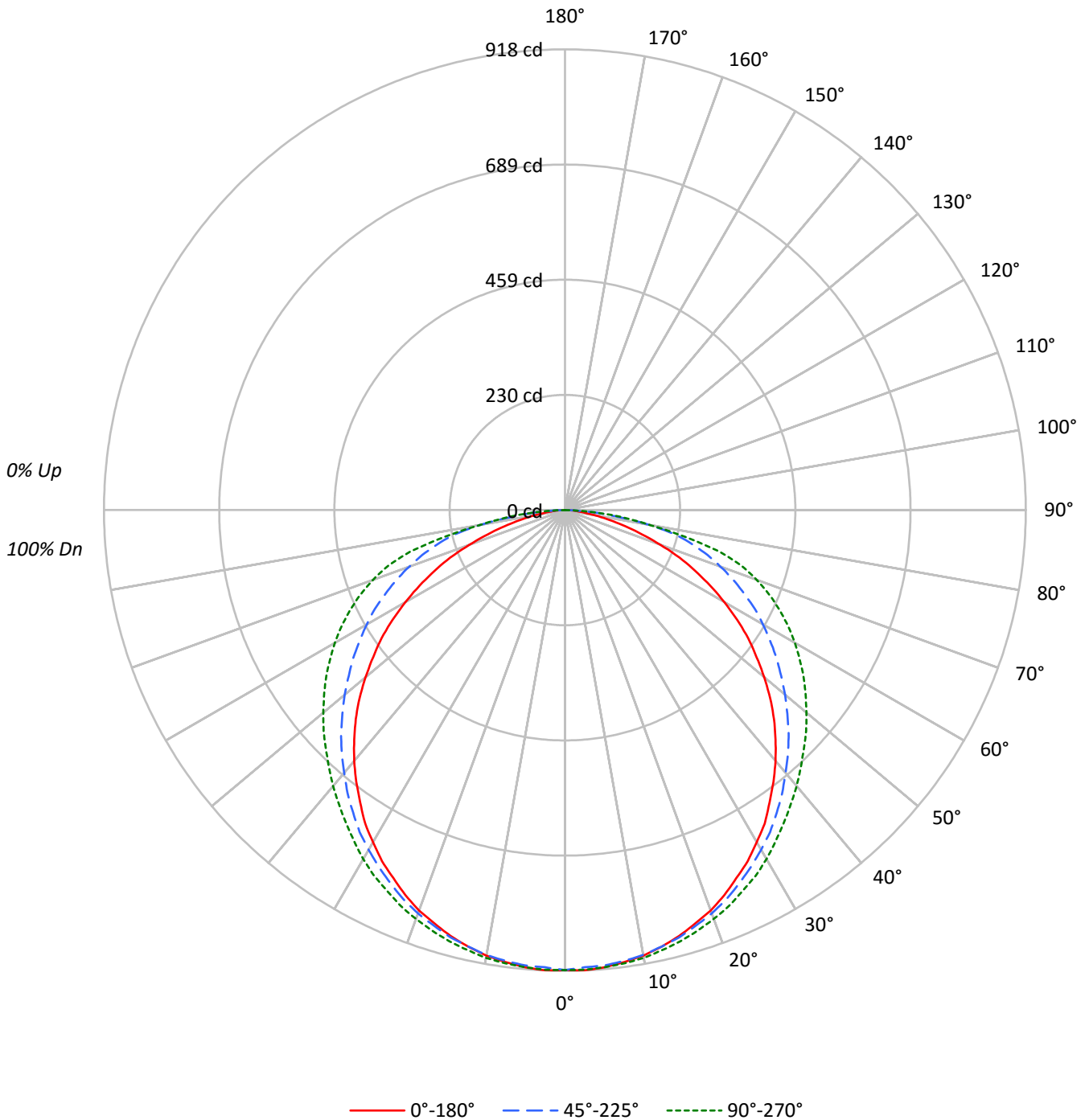
Lumens per Lamp: N/A
Luminaire Lumens: 2825.0 lumens
Efficiency: N/A
Efficacy: 84.3 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.5
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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1233	1233	1233
5°	1235	1230	1235
10°	1231	1230	1238
15°	1224	1227	1239
20°	1216	1224	1241
25°	1201	1219	1243
30°	1187	1214	1248
35°	1168	1208	1249
40°	1147	1201	1261
45°	1121	1200	1280
50°	1084	1198	1315
55°	1046	1207	1362
60°	987	1225	1423
65°	911	1254	1502
70°	795	1298	1600
75°	646	1365	1654
80°	477	1338	1338
85°	366	986	1113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	3.1
10°-20°	249.3	8.8
20°-30°	379.6	13.4
30°-40°	460.9	16.3
40°-50°	487.0	17.2
50°-60°	459.5	16.3
60°-70°	382.0	13.5
70°-80°	251.3	8.9
80°-90°	68.5	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°	715.8	25.3
0°-40°	1176.7	41.7
0°-60°	2123.1	75.2
0°-90°	2825.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2825.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	917	917	917	917	917	
5°	914	914	911	914	914	87
15°	879	880	881	889	889	248
25°	809	814	821	835	837	373
35°	711	719	736	754	760	445
45°	589	601	630	661	673	454
55°	446	465	514	563	581	397
65°	286	319	394	452	472	283
75°	124	181	263	311	318	134
85°	24	52	64	71	72	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	916.6	916.6	916.6	916.6	916.6
2.5°	917.8	916.6	911.8	916.6	916.6
5°	914.2	914.2	910.7	914.2	914.2
7.5°	908.3	908.3	905.9	910.7	910.7
10°	901.2	901.2	900.0	905.9	905.9
12.5°	890.6	891.7	890.6	897.7	897.7
15°	878.7	879.9	881.1	889.4	889.4
17.5°	863.4	865.7	868.1	877.5	878.7
20°	849.2	850.3	855.1	865.7	866.9
22.5°	830.2	833.8	839.7	850.3	853.9
25°	808.9	813.7	820.8	835.0	837.3
27.5°	788.8	792.4	801.9	817.2	822.0
30°	764.0	769.9	781.7	797.1	803.0
32.5°	740.4	746.3	760.5	777.0	781.7
35°	710.8	719.1	735.6	754.5	760.5
37.5°	682.4	690.7	710.8	732.1	739.2
40°	652.8	662.3	683.6	708.4	717.9
42.5°	620.9	633.9	657.6	684.8	695.4
45°	589.0	600.8	630.4	661.1	672.9
47.5°	554.7	568.9	600.8	637.5	651.7
50°	518.0	535.8	572.4	612.6	628.0
52.5°	481.3	501.5	542.8	587.8	604.3
55°	445.9	464.8	514.5	563.0	580.7
57.5°	406.8	430.5	484.9	536.9	554.7
60°	366.6	392.6	455.3	509.7	528.7
62.5°	326.4	356.0	426.9	481.3	501.5
65°	286.2	319.3	393.8	451.8	471.9
67.5°	247.2	283.8	363.1	421.0	441.1
70°	202.2	248.4	330.0	386.7	406.8
72.5°	160.8	214.1	298.0	351.3	369.0
75°	124.2	180.9	262.6	311.0	318.1
77.5°	91.1	147.8	225.9	242.4	243.6
80°	61.5	118.3	172.7	170.3	172.7
82.5°	40.2	88.7	108.8	121.8	123.0
85°	23.7	52.0	63.9	71.0	72.1
87.5°	11.8	17.7	22.5	23.7	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)