

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: P310742

Luminaire Tested: **24FCZ2-40-UNV-L82765-CP187-W2A-U-2700K**

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: P310742
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: 24FCZ2-40-UNV-L82765-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 2700K 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: 3177.0 lumens
Efficiency: N/A
Efficacy: 97.2 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

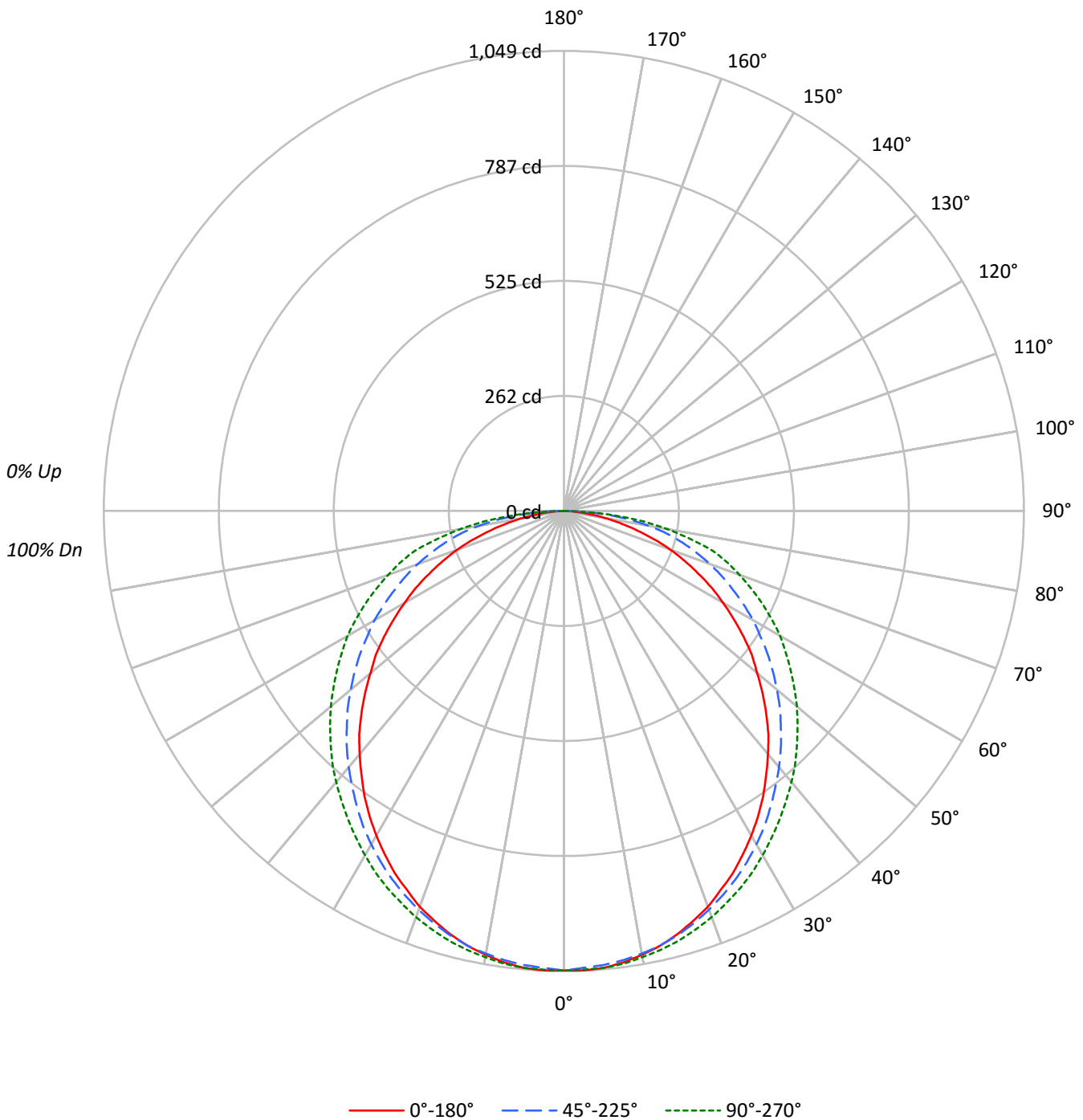
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82					82			
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67					67			
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56					56			
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47					47			
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36					36			
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31					31			
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28					28			
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23					23			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1410	1410	1410
5°	1412	1404	1412
10°	1404	1400	1411
15°	1392	1395	1412
20°	1375	1385	1411
25°	1354	1375	1410
30°	1328	1364	1408
35°	1302	1350	1409
40°	1272	1340	1418
45°	1242	1332	1430
50°	1205	1328	1452
55°	1175	1330	1481
60°	1129	1342	1532
65°	1077	1356	1587
70°	1020	1397	1675
75°	910	1458	1830
80°	776	1543	1870
85°	553	1530	1789



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.2	3.1
10°-20°	283.5	8.9
20°-30°	428.2	13.5
30°-40°	516.1	16.2
40°-50°	541.8	17.1
50°-60°	506.9	16.0
60°-70°	418.6	13.2
70°-80°	285.3	9.0
80°-90°	97.3	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°	810.9	25.5
0°-40°	1327.1	41.8
0°-60°	2375.8	74.8
0°-90°	3177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3177.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1046	1045	1039	1046	1046	99
15°	999	1000	1001	1012	1014	282
25°	912	916	926	944	950	420
35°	793	801	822	850	858	495
45°	652	666	700	738	752	503
55°	501	521	567	614	631	447
65°	338	367	426	480	499	336
75°	175	215	280	333	352	187
85°	36	71	99	112	116	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1047.7	1047.7	1047.7	1047.7	1047.7
2.5°	1048.8	1047.7	1042.5	1047.7	1046.7
5°	1045.6	1044.6	1039.3	1045.6	1045.6
7.5°	1038.3	1038.3	1033.0	1040.4	1041.4
10°	1027.7	1027.7	1024.6	1033.0	1033.0
12.5°	1015.1	1015.1	1015.1	1023.5	1024.6
15°	999.3	1000.3	1001.4	1011.9	1014.0
17.5°	980.3	982.4	985.6	998.2	1000.3
20°	960.3	962.4	967.6	982.4	985.6
22.5°	935.0	940.2	947.6	964.5	967.6
25°	911.8	916.0	926.5	944.4	949.7
27.5°	883.3	889.6	903.3	922.3	929.7
30°	854.9	861.2	878.0	900.2	906.5
32.5°	824.3	833.8	851.7	874.9	882.3
35°	792.7	801.1	822.2	849.6	858.0
37.5°	757.9	769.5	792.7	822.2	832.7
40°	724.1	736.8	763.1	794.8	807.4
42.5°	690.4	703.1	732.6	768.4	781.1
45°	652.5	666.2	699.9	737.8	751.6
47.5°	614.5	631.4	668.3	708.3	723.1
50°	575.5	594.5	634.6	676.7	693.6
52.5°	540.7	558.7	600.8	646.1	662.0
55°	500.7	520.7	567.1	613.5	631.4
57.5°	459.6	481.7	531.3	581.8	599.8
60°	419.5	443.8	498.6	549.2	569.2
62.5°	380.5	404.8	461.7	514.4	534.4
65°	338.4	366.8	425.8	479.6	498.6
67.5°	298.3	328.9	391.1	443.8	462.7
70°	259.3	288.8	355.2	406.9	425.8
72.5°	217.1	250.9	317.3	371.0	391.1
75°	175.0	215.0	280.4	333.1	352.1
77.5°	136.0	177.1	242.4	285.7	295.1
80°	100.1	142.3	199.2	229.8	241.4
82.5°	64.3	106.5	151.8	173.9	183.4
85°	35.8	70.6	99.1	111.7	115.9
87.5°	14.8	30.6	40.1	45.3	45.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)