

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: P310660

Luminaire Tested: **24FCZ2-35-UNV-L82765-CP187-W2A-U-6500K**

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: P310660
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: 24FCZ2-35-UNV-L82765-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 6500K 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: 3181.0 lumens
Efficiency: N/A
Efficacy: 108.9 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

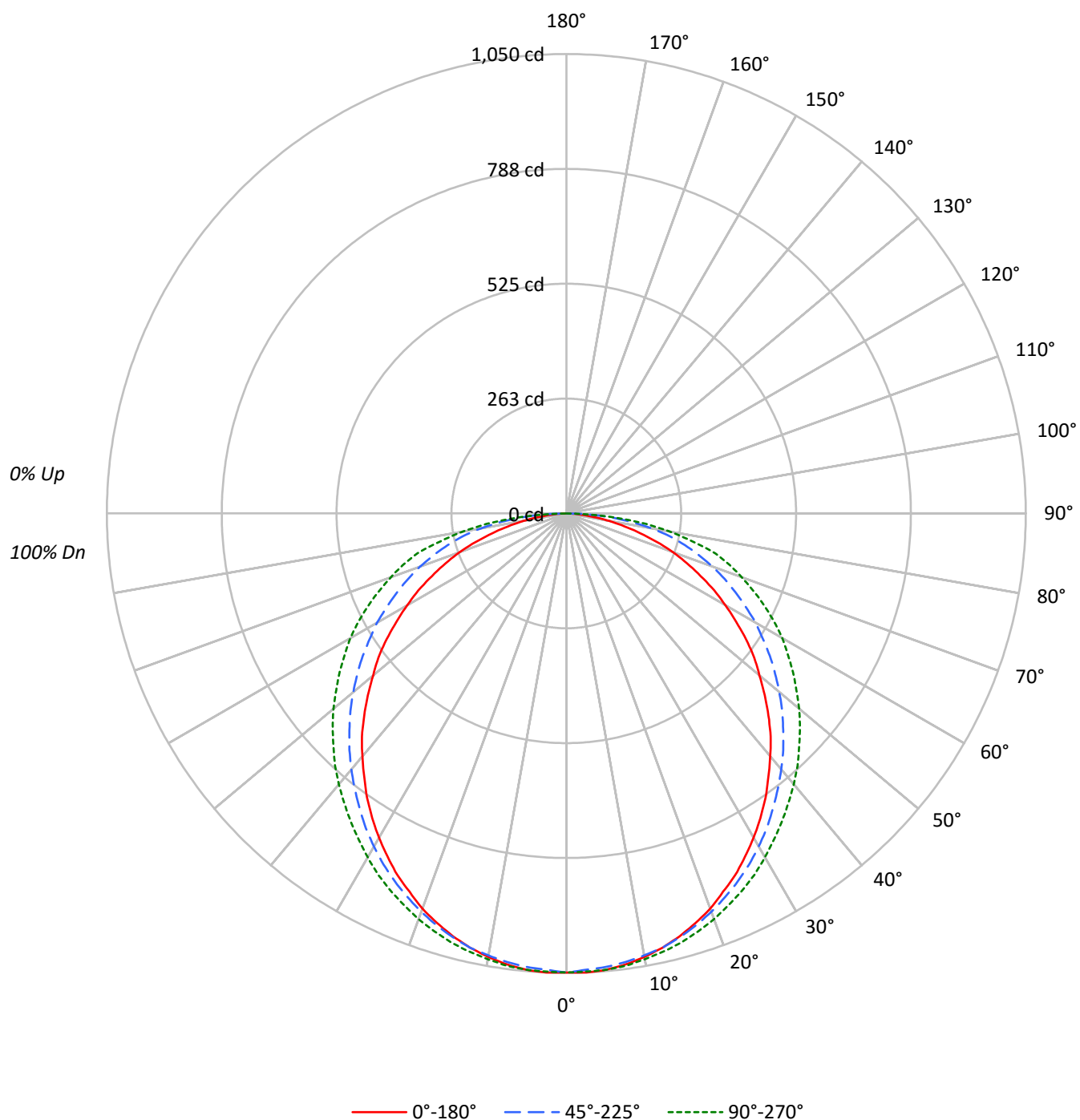
Input Watts (W): 29.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1412	1412	1412
5°	1414	1405	1414
10°	1406	1401	1413
15°	1394	1397	1414
20°	1377	1387	1413
25°	1355	1377	1412
30°	1330	1366	1410
35°	1304	1352	1411
40°	1274	1342	1420
45°	1243	1333	1432
50°	1206	1330	1454
55°	1176	1332	1483
60°	1130	1343	1534
65°	1079	1358	1589
70°	1021	1399	1677
75°	911	1459	1832
80°	777	1546	1873
85°	554	1531	1792



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.3	3.1
10°-20°	283.9	8.9
20°-30°	428.8	13.5
30°-40°	516.8	16.2
40°-50°	542.5	17.1
50°-60°	507.6	16.0
60°-70°	419.2	13.2
70°-80°	285.6	9.0
80°-90°	97.4	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°	811.9	25.5
0°-40°	1328.7	41.8
0°-60°	2378.8	74.8
0°-90°	3181.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3181.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1049	1049	1049	1049	1049	
5°	1047	1046	1041	1047	1047	99
15°	1000	1002	1003	1013	1015	282
25°	913	917	928	946	951	420
35°	794	802	823	851	859	496
45°	653	667	701	739	752	504
55°	501	521	568	614	632	447
65°	339	367	426	480	499	336
75°	175	215	281	334	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°	1049.1	1049.1	1049.1	1049.1	1049.1
2.5°	1050.1	1049.1	1043.8	1049.1	1048.0
5°	1047.0	1045.9	1040.6	1047.0	1047.0
7.5°	1039.6	1039.6	1034.3	1041.7	1042.7
10°	1029.0	1029.0	1025.8	1034.3	1034.3
12.5°	1016.3	1016.3	1016.3	1024.8	1025.8
15°	1000.5	1001.6	1002.6	1013.2	1015.3
17.5°	981.5	983.6	986.8	999.5	1001.6
20°	961.5	963.6	968.9	983.6	986.8
22.5°	936.1	941.4	948.8	965.7	968.9
25°	912.9	917.1	927.7	945.6	950.9
27.5°	884.4	890.8	904.5	923.5	930.9
30°	855.9	862.3	879.1	901.3	907.6
32.5°	825.3	834.8	852.8	876.0	883.4
35°	793.7	802.1	823.2	850.7	859.1
37.5°	758.8	770.4	793.7	823.2	833.8
40°	725.1	737.7	764.1	795.8	808.4
42.5°	691.3	704.0	733.5	769.4	782.1
45°	653.3	667.0	700.8	738.8	752.5
47.5°	615.3	632.2	669.1	709.2	724.0
50°	576.2	595.2	635.3	677.6	694.5
52.5°	541.4	559.4	601.6	647.0	662.8
55°	501.3	521.4	567.8	614.2	632.2
57.5°	460.2	482.3	531.9	582.6	600.5
60°	420.0	444.3	499.2	549.9	569.9
62.5°	381.0	405.3	462.3	515.0	535.1
65°	338.8	367.3	426.4	480.2	499.2
67.5°	298.7	329.3	391.6	444.3	463.3
70°	259.6	289.2	355.7	407.4	426.4
72.5°	217.4	251.2	317.7	371.5	391.6
75°	175.2	215.3	280.7	333.5	352.5
77.5°	136.1	177.3	242.7	286.0	295.5
80°	100.3	142.5	199.5	230.1	241.7
82.5°	64.4	106.6	152.0	174.1	183.6
85°	35.9	70.7	99.2	111.9	116.1
87.5°	14.8	30.6	40.1	45.4	45.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)