

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: P310838

Luminaire Tested: **24FCZ2-45-UNV-L82765-CP187-W2A-U-5500K**

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: P310838
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: 24FCZ2-45-UNV-L82765-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 5500K 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: 4032.0 lumens
Efficiency: N/A
Efficacy: 104.2 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

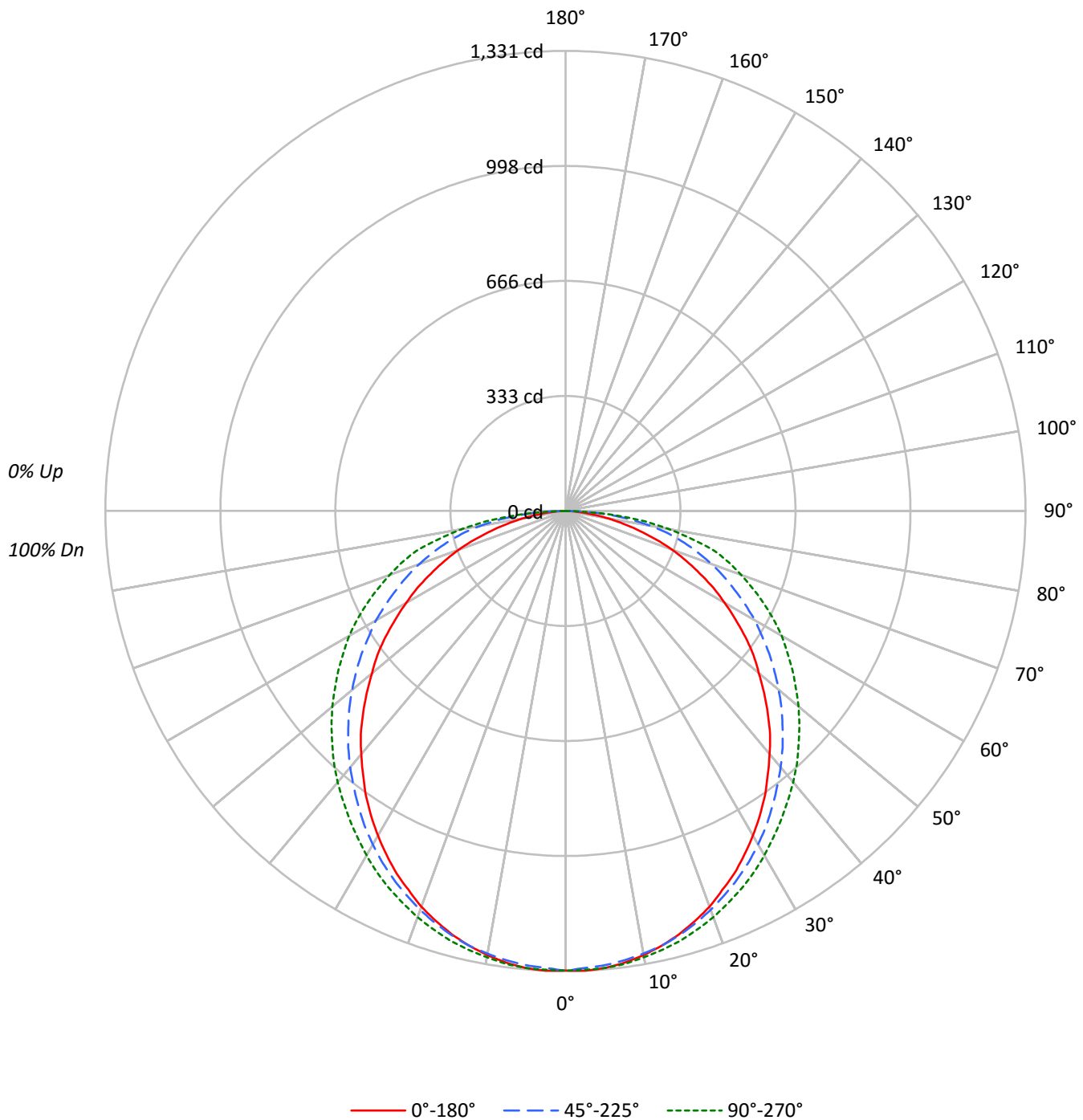
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1789	1789	1789
5°	1792	1781	1792
10°	1782	1777	1791
15°	1767	1770	1793
20°	1745	1758	1791
25°	1718	1746	1789
30°	1686	1731	1787
35°	1652	1714	1789
40°	1614	1701	1800
45°	1576	1690	1815
50°	1529	1686	1842
55°	1491	1688	1880
60°	1433	1703	1944
65°	1367	1720	2015
70°	1295	1773	2126
75°	1155	1850	2323
80°	985	1959	2373
85°	702	1941	2272



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.8	3.1
10°-20°	359.8	8.9
20°-30°	543.5	13.5
30°-40°	655.0	16.2
40°-50°	687.7	17.1
50°-60°	643.3	16.0
60°-70°	531.3	13.2
70°-80°	362.0	9.0
80°-90°	123.5	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°	1029.2	25.5
0°-40°	1684.2	41.8
0°-60°	3015.2	74.8
0°-90°	4032.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1327	1326	1319	1327	1327	126
15°	1268	1270	1271	1284	1287	357
25°	1157	1162	1176	1199	1205	532
35°	1006	1017	1043	1078	1089	629
45°	828	846	888	936	954	639
55°	635	661	720	779	801	567
65°	429	466	540	609	633	426
75°	222	273	356	423	447	237
85°	46	90	126	142	147	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1329.7	1329.7	1329.7	1329.7	1329.7
2.5°	1331.1	1329.7	1323.0	1329.7	1328.4
5°	1327.0	1325.7	1319.0	1327.0	1327.0
7.5°	1317.7	1317.7	1311.0	1320.4	1321.7
10°	1304.3	1304.3	1300.3	1311.0	1311.0
12.5°	1288.2	1288.2	1288.2	1299.0	1300.3
15°	1268.2	1269.5	1270.9	1284.2	1286.9
17.5°	1244.1	1246.8	1250.8	1266.8	1269.5
20°	1218.7	1221.4	1228.0	1246.8	1250.8
22.5°	1186.6	1193.3	1202.6	1224.0	1228.0
25°	1157.1	1162.5	1175.9	1198.6	1205.3
27.5°	1121.0	1129.1	1146.4	1170.5	1179.9
30°	1084.9	1092.9	1114.3	1142.4	1150.5
32.5°	1046.1	1058.2	1080.9	1110.3	1119.7
35°	1006.0	1016.7	1043.4	1078.2	1088.9
37.5°	961.8	976.6	1006.0	1043.4	1056.8
40°	919.0	935.1	968.5	1008.7	1024.7
42.5°	876.2	892.3	929.7	975.2	991.3
45°	828.1	845.5	888.3	936.4	953.8
47.5°	779.9	801.3	848.1	899.0	917.7
50°	730.4	754.5	805.3	858.8	880.2
52.5°	686.3	709.0	762.5	820.0	840.1
55°	635.4	660.8	719.7	778.6	801.3
57.5°	583.3	611.3	674.2	738.4	761.2
60°	532.4	563.2	632.8	697.0	722.4
62.5°	482.9	513.7	585.9	652.8	678.2
65°	429.4	465.5	540.4	608.7	632.8
67.5°	378.6	417.4	496.3	563.2	587.3
70°	329.1	366.5	450.8	516.4	540.4
72.5°	275.6	318.4	402.7	470.9	496.3
75°	222.1	272.9	355.8	422.7	446.8
77.5°	172.6	224.7	307.7	362.5	374.6
80°	127.1	180.6	252.8	291.6	306.3
82.5°	81.6	135.1	192.6	220.7	232.8
85°	45.5	89.6	125.7	141.8	147.2
87.5°	18.7	38.8	50.8	57.5	57.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)