

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: P310429

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-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: P310429
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L82765-RDP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 3963.0 lumens
Efficiency: N/A
Efficacy: 68.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

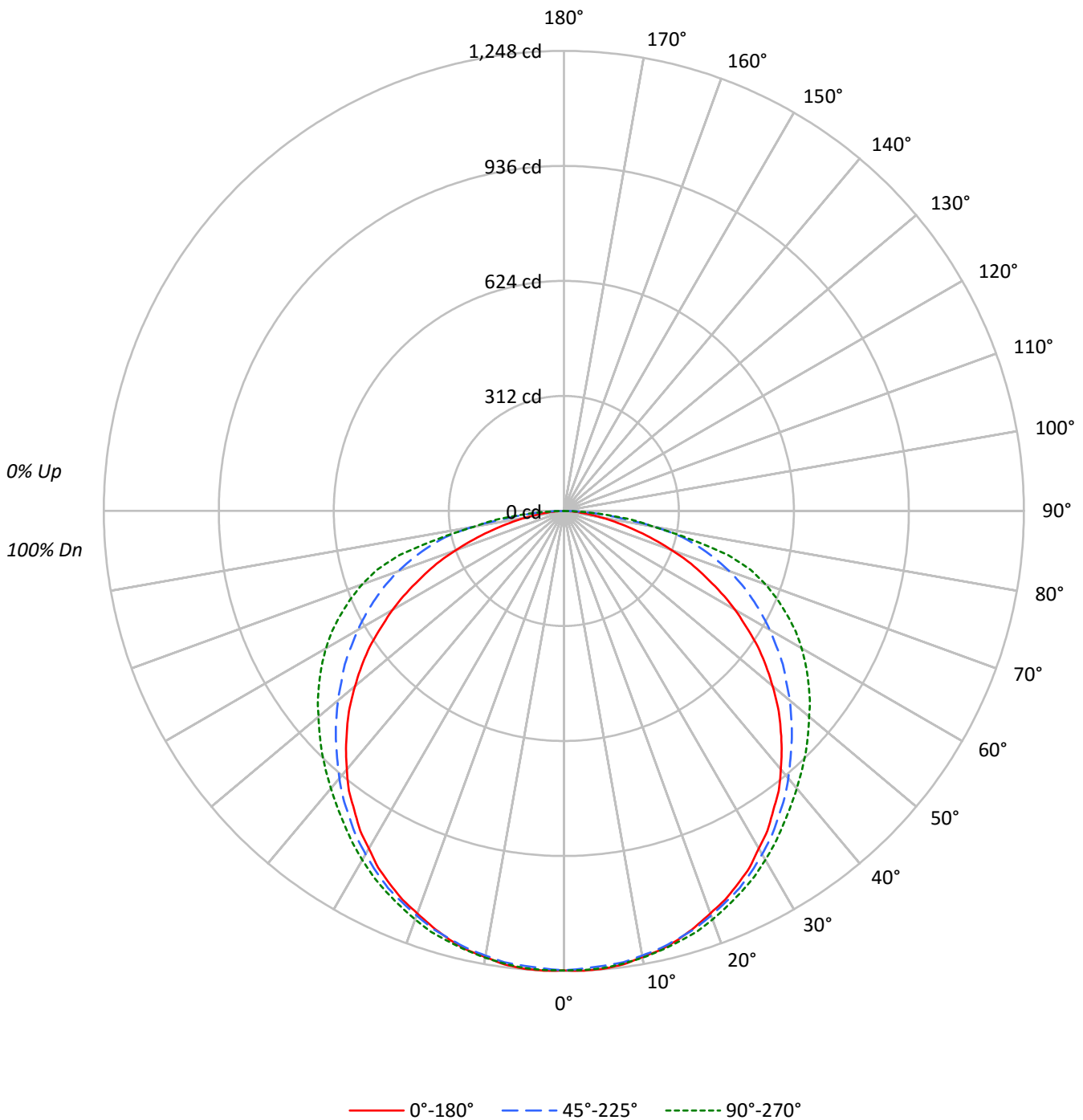
Input Watts (W): 58
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1677	1677	1677
5°	1683	1673	1681
10°	1679	1673	1681
15°	1676	1673	1684
20°	1663	1672	1689
25°	1658	1675	1693
30°	1643	1670	1698
35°	1627	1666	1705
40°	1609	1664	1726
45°	1582	1664	1765
50°	1547	1675	1819
55°	1508	1701	1900
60°	1444	1735	2005
65°	1352	1796	2128
70°	1229	1879	2289
75°	1042	1982	2391
80°	822	1995	1934
85°	607	1518	1700



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.2	3.0
10°-20°	340.2	8.6
20°-30°	520.3	13.1
30°-40°	636.0	16.0
40°-50°	677.9	17.1
50°-60°	648.1	16.4
60°-70°	549.1	13.9
70°-80°	369.0	9.3
80°-90°	104.1	2.6
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°	978.7	24.7
0°-40°	1614.8	40.7
0°-60°	2940.8	74.2
0°-90°	3963.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3963.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1246	1246	1246	1246	1246	
5°	1246	1244	1238	1244	1244	118
15°	1203	1203	1201	1211	1209	339
25°	1116	1120	1128	1138	1140	515
35°	991	999	1014	1034	1038	621
45°	832	845	875	912	928	641
55°	643	666	725	782	810	572
65°	425	468	564	639	668	422
75°	200	273	381	446	460	215
85°	39	81	98	106	110	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1246.3	1246.3	1246.3	1246.3	1246.3
2.5°	1248.2	1248.2	1242.3	1246.3	1246.3
5°	1246.3	1244.3	1238.4	1244.3	1244.3
7.5°	1240.4	1238.4	1234.5	1240.4	1238.4
10°	1228.6	1228.6	1224.6	1230.5	1230.5
12.5°	1218.7	1216.8	1214.8	1222.7	1220.7
15°	1203.0	1203.0	1201.0	1210.9	1208.9
17.5°	1183.3	1185.3	1187.3	1195.1	1197.1
20°	1161.7	1165.7	1167.6	1179.4	1179.4
22.5°	1142.1	1144.0	1148.0	1159.8	1159.8
25°	1116.5	1120.4	1128.3	1138.1	1140.1
27.5°	1091.0	1092.9	1102.8	1116.5	1118.5
30°	1057.5	1063.4	1075.2	1091.0	1092.9
32.5°	1028.1	1034.0	1047.7	1063.4	1067.4
35°	990.7	998.6	1014.3	1034.0	1037.9
37.5°	957.3	963.2	982.8	1004.5	1010.4
40°	916.0	927.8	947.5	973.0	982.8
42.5°	874.7	886.5	910.1	943.5	955.3
45°	831.5	845.2	874.7	912.1	927.8
47.5°	788.2	804.0	837.4	880.6	898.3
50°	739.1	758.8	800.0	849.2	868.8
52.5°	691.9	715.5	760.7	815.8	841.3
55°	642.8	666.4	725.3	782.3	809.9
57.5°	587.7	619.2	684.1	748.9	778.4
60°	536.6	566.1	644.7	715.5	745.0
62.5°	481.6	520.9	605.4	680.1	709.6
65°	424.6	467.8	564.2	638.9	668.3
67.5°	373.5	420.7	522.9	597.6	627.1
70°	312.5	371.5	477.7	552.4	581.8
72.5°	255.5	320.4	430.5	503.2	530.7
75°	200.5	273.2	381.3	446.2	460.0
77.5°	149.4	226.1	330.2	357.8	347.9
80°	106.1	180.8	257.5	243.7	249.6
82.5°	68.8	137.6	159.2	180.8	186.7
85°	39.3	80.6	98.3	106.1	110.1
87.5°	17.7	29.5	39.3	39.3	37.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)