

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: P310389

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-RDP-CP187-W2A-U-5700K**

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: P310389
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: 24FCZ2-65HE-UNV-L82765-RDP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 3921.0 lumens
Efficiency: N/A
Efficacy: 72.5 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

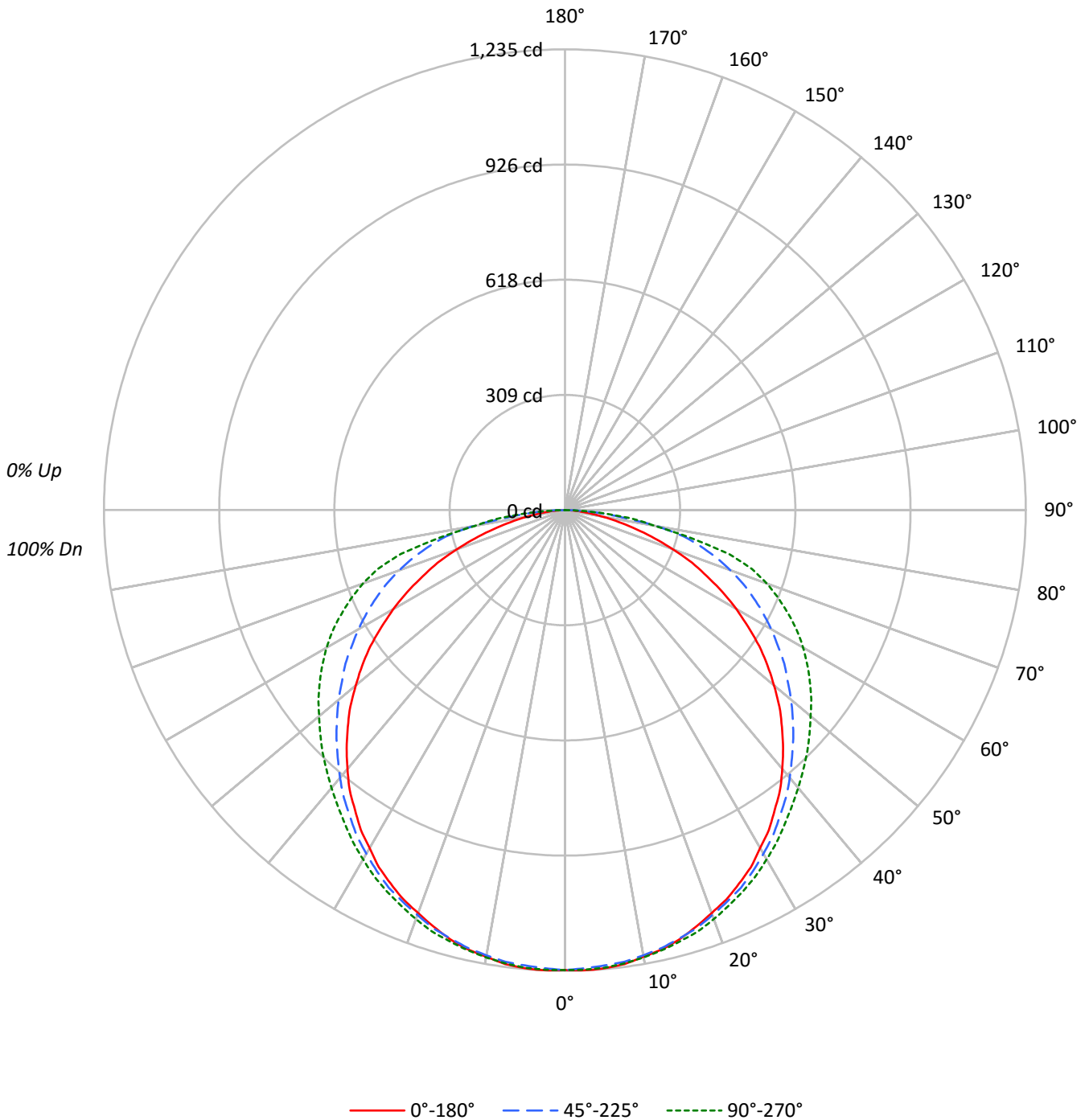
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	67	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°	1659	1659	1659
5°	1665	1655	1663
10°	1661	1655	1663
15°	1658	1655	1666
20°	1646	1654	1671
25°	1640	1657	1675
30°	1626	1653	1680
35°	1610	1648	1687
40°	1592	1646	1708
45°	1565	1647	1747
50°	1531	1657	1799
55°	1492	1684	1880
60°	1429	1717	1984
65°	1337	1777	2105
70°	1216	1859	2265
75°	1031	1961	2366
80°	814	1974	1914
85°	601	1501	1681



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.0	3.0
10°-20°	336.6	8.6
20°-30°	514.8	13.1
30°-40°	629.3	16.0
40°-50°	670.7	17.1
50°-60°	641.3	16.4
60°-70°	543.2	13.9
70°-80°	365.1	9.3
80°-90°	103.0	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°	968.4	24.7
0°-40°	1597.7	40.7
0°-60°	2909.7	74.2
0°-90°	3921.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3921.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1233	1233	1233	1233	1233	
5°	1233	1231	1225	1231	1231	117
15°	1190	1190	1188	1198	1196	336
25°	1105	1109	1116	1126	1128	509
35°	980	988	1004	1023	1027	614
45°	823	836	866	902	918	635
55°	636	659	718	774	801	566
65°	420	463	558	632	661	417
75°	198	270	377	442	455	212
85°	39	80	97	105	109	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1235.0	1235.0	1229.2	1233.0	1233.0
5°	1233.0	1231.1	1225.3	1231.1	1231.1
7.5°	1227.2	1225.3	1221.4	1227.2	1225.3
10°	1215.5	1215.5	1211.6	1217.5	1217.5
12.5°	1205.8	1203.9	1201.9	1209.7	1207.8
15°	1190.3	1190.3	1188.3	1198.0	1196.1
17.5°	1170.8	1172.8	1174.7	1182.5	1184.4
20°	1149.4	1153.3	1155.2	1166.9	1166.9
22.5°	1130.0	1131.9	1135.8	1147.5	1147.5
25°	1104.7	1108.6	1116.4	1126.1	1128.0
27.5°	1079.4	1081.3	1091.1	1104.7	1106.6
30°	1046.3	1052.2	1063.8	1079.4	1081.3
32.5°	1017.2	1023.0	1036.6	1052.2	1056.1
35°	980.2	988.0	1003.5	1023.0	1026.9
37.5°	947.1	953.0	972.4	993.8	999.7
40°	906.3	918.0	937.4	962.7	972.4
42.5°	865.5	877.1	900.5	933.5	945.2
45°	822.7	836.3	865.5	902.4	918.0
47.5°	779.9	795.4	828.5	871.3	888.8
50°	731.3	750.7	791.6	840.2	859.6
52.5°	684.6	707.9	752.7	807.1	832.4
55°	636.0	659.3	717.7	774.1	801.3
57.5°	581.5	612.6	676.8	741.0	770.2
60°	530.9	560.1	637.9	707.9	737.1
62.5°	476.5	515.4	599.0	672.9	702.1
65°	420.1	462.9	558.2	632.1	661.3
67.5°	369.5	416.2	517.3	591.2	620.4
70°	309.2	367.6	472.6	546.5	575.7
72.5°	252.8	317.0	425.9	497.9	525.1
75°	198.4	270.3	377.3	441.5	455.1
77.5°	147.8	223.7	326.7	354.0	344.2
80°	105.0	178.9	254.8	241.2	247.0
82.5°	68.1	136.1	157.5	178.9	184.8
85°	38.9	79.7	97.2	105.0	108.9
87.5°	17.5	29.2	38.9	38.9	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)