

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: P313731

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-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: P313731
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-L83050-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: 3761.0 lumens
Efficiency: N/A
Efficacy: 71.5 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

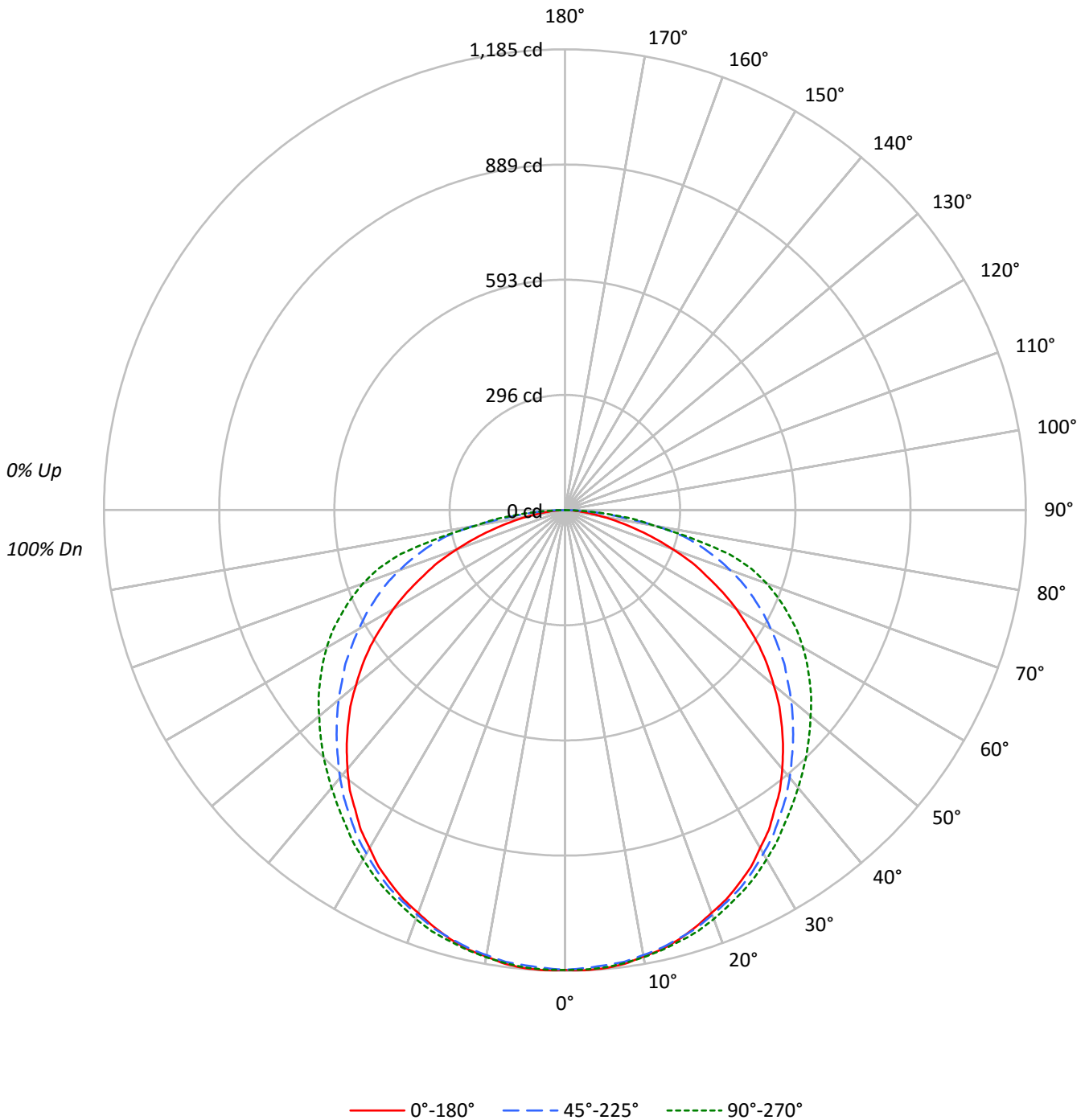
Input Watts (W): 52.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1591	1591	1591
5°	1597	1587	1595
10°	1593	1588	1596
15°	1590	1588	1598
20°	1579	1587	1603
25°	1573	1590	1606
30°	1559	1585	1611
35°	1544	1581	1618
40°	1527	1579	1638
45°	1502	1580	1675
50°	1468	1589	1726
55°	1431	1615	1803
60°	1371	1647	1903
65°	1283	1705	2019
70°	1167	1783	2172
75°	989	1881	2269
80°	780	1894	1836
85°	576	1440	1613



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.2	3.0
10°-20°	322.9	8.6
20°-30°	493.8	13.1
30°-40°	603.6	16.0
40°-50°	643.3	17.1
50°-60°	615.1	16.4
60°-70°	521.1	13.9
70°-80°	350.2	9.3
80°-90°	98.8	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°	928.8	24.7
0°-40°	1532.5	40.7
0°-60°	2790.9	74.2
0°-90°	3761.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3761.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1183	1181	1175	1181	1181	112
15°	1142	1142	1140	1149	1147	322
25°	1060	1063	1071	1080	1082	488
35°	940	948	963	981	985	589
45°	789	802	830	866	880	609
55°	610	632	688	742	769	543
65°	403	444	535	606	634	400
75°	190	259	362	424	436	204
85°	37	76	93	101	104	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1182.7	1182.7	1182.7	1182.7	1182.7
2.5°	1184.6	1184.6	1179.0	1182.7	1182.7
5°	1182.7	1180.9	1175.3	1180.9	1180.9
7.5°	1177.1	1175.3	1171.5	1177.1	1175.3
10°	1165.9	1165.9	1162.2	1167.8	1167.8
12.5°	1156.6	1154.7	1152.9	1160.3	1158.5
15°	1141.7	1141.7	1139.8	1149.1	1147.3
17.5°	1123.0	1124.9	1126.8	1134.2	1136.1
20°	1102.5	1106.2	1108.1	1119.3	1119.3
22.5°	1083.9	1085.7	1089.5	1100.6	1100.6
25°	1059.6	1063.3	1070.8	1080.1	1082.0
27.5°	1035.4	1037.2	1046.5	1059.6	1061.5
30°	1003.6	1009.2	1020.4	1035.4	1037.2
32.5°	975.7	981.3	994.3	1009.2	1013.0
35°	940.2	947.7	962.6	981.3	985.0
37.5°	908.5	914.1	932.8	953.3	958.9
40°	869.3	880.5	899.2	923.4	932.8
42.5°	830.1	841.3	863.7	895.4	906.6
45°	789.1	802.2	830.1	865.6	880.5
47.5°	748.1	763.0	794.7	835.7	852.5
50°	701.4	720.1	759.3	805.9	824.6
52.5°	656.7	679.0	721.9	774.2	798.4
55°	610.0	632.4	688.4	742.5	768.6
57.5°	557.8	587.6	649.2	710.8	738.7
60°	509.3	537.3	611.9	679.0	707.0
62.5°	457.0	494.4	574.6	645.5	673.4
65°	402.9	444.0	535.4	606.3	634.3
67.5°	354.4	399.2	496.2	567.1	595.1
70°	296.6	352.6	453.3	524.2	552.2
72.5°	242.5	304.1	408.5	477.6	503.7
75°	190.3	259.3	361.9	423.5	436.5
77.5°	141.8	214.5	313.4	339.5	330.2
80°	100.7	171.6	244.4	231.3	236.9
82.5°	65.3	130.6	151.1	171.6	177.2
85°	37.3	76.5	93.3	100.7	104.5
87.5°	16.8	28.0	37.3	37.3	35.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)