

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: P310789

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-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: P310789
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: 24FCZ2-45HE-UNV-L82765-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 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: 3747.0 lumens
Efficiency: N/A
Efficacy: 110.2 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

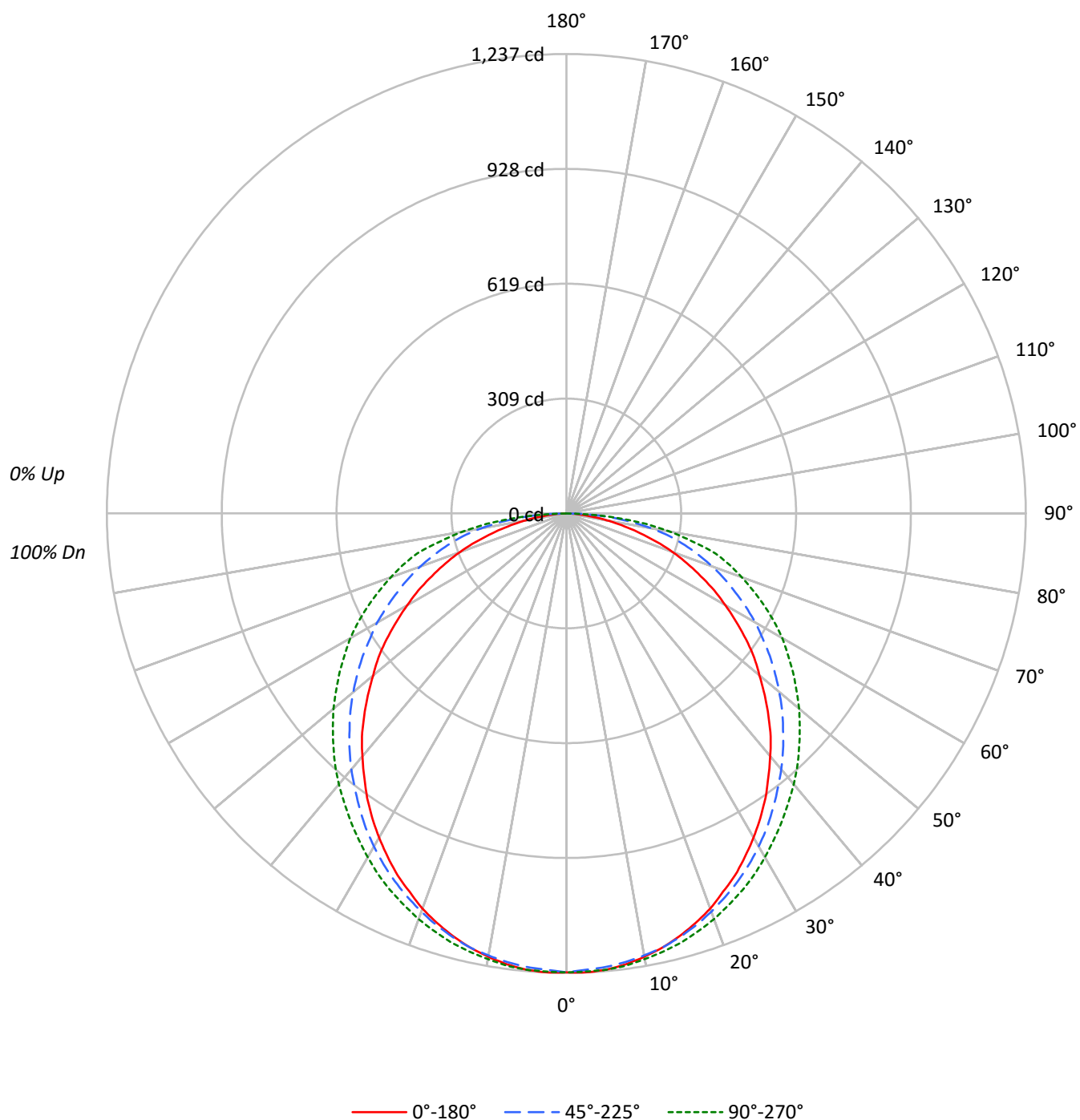
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1663	1663	1663
5°	1666	1656	1666
10°	1656	1651	1664
15°	1642	1645	1666
20°	1622	1634	1664
25°	1597	1622	1663
30°	1566	1609	1661
35°	1536	1593	1662
40°	1500	1581	1673
45°	1464	1571	1687
50°	1421	1567	1712
55°	1385	1569	1747
60°	1331	1582	1806
65°	1271	1599	1872
70°	1203	1648	1976
75°	1073	1719	2158
80°	915	1821	2206
85°	653	1805	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.9	3.1
10°-20°	334.4	8.9
20°-30°	505.1	13.5
30°-40°	608.7	16.2
40°-50°	639.1	17.1
50°-60°	597.9	16.0
60°-70°	493.7	13.2
70°-80°	336.4	9.0
80°-90°	114.8	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°	956.4	25.5
0°-40°	1565.1	41.8
0°-60°	2802.1	74.8
0°-90°	3747.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3747.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1233	1232	1226	1233	1233	117
15°	1178	1180	1181	1194	1196	332
25°	1075	1080	1093	1114	1120	495
35°	935	945	970	1002	1012	584
45°	770	786	826	870	886	593
55°	590	614	669	724	745	527
65°	399	433	502	566	588	396
75°	206	254	331	393	415	220
85°	42	83	117	132	137	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1235.7	1235.7	1235.7	1235.7	1235.7
2.5°	1237.0	1235.7	1229.5	1235.7	1234.5
5°	1233.2	1232.0	1225.8	1233.2	1233.2
7.5°	1224.5	1224.5	1218.3	1227.0	1228.3
10°	1212.1	1212.1	1208.4	1218.3	1218.3
12.5°	1197.2	1197.2	1197.2	1207.1	1208.4
15°	1178.5	1179.8	1181.0	1193.5	1195.9
17.5°	1156.2	1158.7	1162.4	1177.3	1179.8
20°	1132.5	1135.0	1141.2	1158.7	1162.4
22.5°	1102.7	1108.9	1117.6	1137.5	1141.2
25°	1075.4	1080.3	1092.8	1113.9	1120.1
27.5°	1041.8	1049.2	1065.4	1087.8	1096.5
30°	1008.2	1015.7	1035.6	1061.7	1069.1
32.5°	972.2	983.4	1004.5	1031.8	1040.5
35°	934.9	944.8	969.7	1002.0	1012.0
37.5°	893.9	907.5	934.9	969.7	982.1
40°	854.1	869.0	900.1	937.4	952.3
42.5°	814.3	829.2	864.0	906.3	921.2
45°	769.5	785.7	825.5	870.2	886.4
47.5°	724.8	744.7	788.2	835.4	852.8
50°	678.8	701.2	748.4	798.1	818.0
52.5°	637.8	658.9	708.6	762.1	780.7
55°	590.5	614.1	668.8	723.5	744.7
57.5°	542.0	568.1	626.6	686.2	707.4
60°	494.8	523.4	588.0	647.7	671.3
62.5°	448.8	477.4	544.5	606.7	630.3
65°	399.1	432.6	502.2	565.7	588.0
67.5°	351.8	387.9	461.2	523.4	545.8
70°	305.8	340.6	419.0	479.9	502.2
72.5°	256.1	295.9	374.2	437.6	461.2
75°	206.4	253.6	330.7	392.8	415.2
77.5°	160.4	208.9	285.9	336.9	348.1
80°	118.1	167.8	235.0	271.0	284.7
82.5°	75.8	125.6	179.0	205.1	216.3
85°	42.3	83.3	116.9	131.8	136.8
87.5°	17.4	36.1	47.2	53.5	53.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)