

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: P311290

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-6500K**

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: P311290
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 6500K 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: 3306.0 lumens
Efficiency: N/A
Efficacy: 121.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

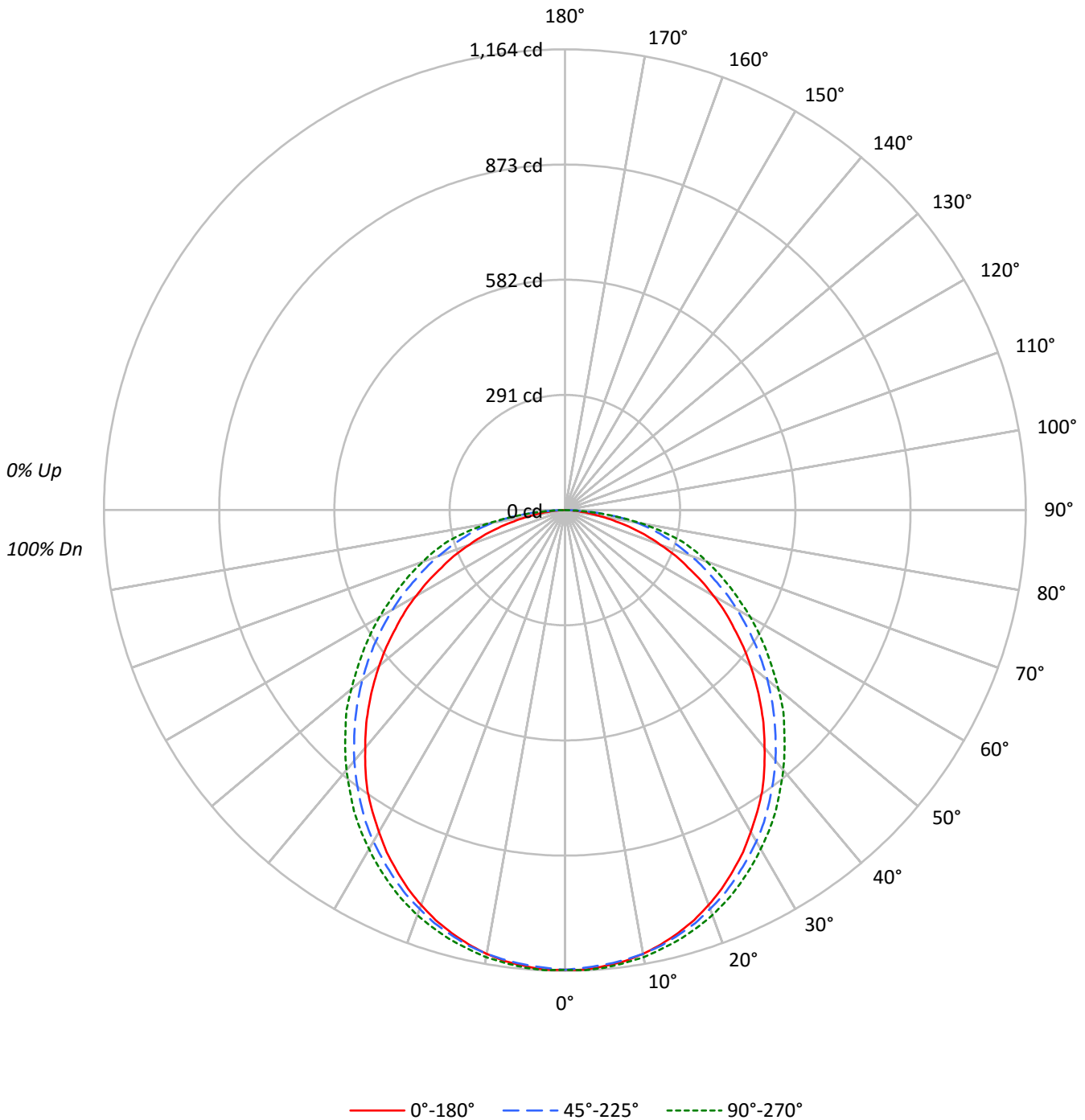
Input Watts (W): 27.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1563	1563	1563
5°	1562	1557	1567
10°	1555	1555	1567
15°	1540	1548	1564
20°	1520	1535	1559
25°	1492	1520	1550
30°	1459	1503	1537
35°	1426	1478	1525
40°	1378	1453	1507
45°	1333	1425	1491
50°	1281	1398	1473
55°	1224	1372	1458
60°	1167	1351	1455
65°	1093	1327	1464
70°	1012	1334	1504
75°	906	1359	1589
80°	732	1440	1554
85°	551	1264	1232



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.0	3.3
10°-20°	314.2	9.5
20°-30°	472.3	14.3
30°-40°	562.5	17.0
40°-50°	575.7	17.4
50°-60°	518.3	15.7
60°-70°	407.1	12.3
70°-80°	264.2	8.0
80°-90°	81.7	2.5
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°	896.4	27.1
0°-40°	1458.9	44.1
0°-60°	2553.0	77.2
0°-90°	3306.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3306.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1161	1161	1161	1161	1161	
5°	1156	1158	1153	1159	1160	110
15°	1106	1109	1111	1120	1123	312
25°	1005	1013	1024	1041	1044	463
35°	868	879	900	922	928	542
45°	700	717	749	777	783	540
55°	522	545	585	615	622	468
65°	343	370	417	452	460	342
75°	174	208	262	297	306	184
85°	36	66	82	80	80	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1161.4	1161.4	1161.4	1161.4	1161.4
2.5°	1162.5	1162.5	1157.2	1162.5	1163.5
5°	1156.2	1158.3	1153.0	1159.3	1160.4
7.5°	1149.9	1149.9	1146.7	1153.0	1154.1
10°	1138.3	1139.4	1138.3	1145.7	1146.7
12.5°	1123.6	1125.7	1126.8	1134.1	1135.2
15°	1105.8	1108.9	1111.0	1120.5	1122.6
17.5°	1085.8	1089.0	1094.2	1104.7	1106.8
20°	1061.7	1065.9	1072.2	1085.8	1089.0
22.5°	1035.4	1039.6	1050.1	1062.7	1068.0
25°	1005.0	1013.4	1023.9	1040.7	1043.8
27.5°	974.5	981.9	995.5	1013.4	1017.6
30°	938.8	950.3	967.1	985.0	989.2
32.5°	904.1	915.7	935.6	954.5	959.8
35°	868.4	878.9	899.9	922.0	928.3
37.5°	827.5	841.1	864.2	886.3	892.6
40°	784.4	801.2	827.5	850.6	857.9
42.5°	743.5	761.3	787.6	812.8	821.2
45°	700.4	717.2	748.7	777.1	783.4
47.5°	656.3	675.2	708.8	737.2	747.7
50°	612.2	632.2	667.9	697.3	703.6
52.5°	568.1	589.1	626.9	658.4	661.6
55°	521.9	545.0	584.9	615.4	621.7
57.5°	479.9	499.9	542.9	574.4	581.8
60°	433.7	455.7	502.0	531.4	540.8
62.5°	389.6	412.7	461.0	490.4	498.8
65°	343.4	369.6	416.9	451.5	459.9
67.5°	303.5	328.7	379.1	412.7	421.1
70°	257.3	285.6	339.2	373.8	382.2
72.5°	217.4	246.8	300.3	333.9	346.5
75°	174.3	207.9	261.5	297.2	305.6
77.5°	132.3	171.2	225.8	253.1	253.1
80°	94.5	135.5	185.9	198.5	200.6
82.5°	62.0	101.9	137.6	136.5	136.5
85°	35.7	66.2	81.9	79.8	79.8
87.5°	13.7	27.3	29.4	29.4	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)