

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: P309080

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-4000K**

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: P309080
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 3494.0 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

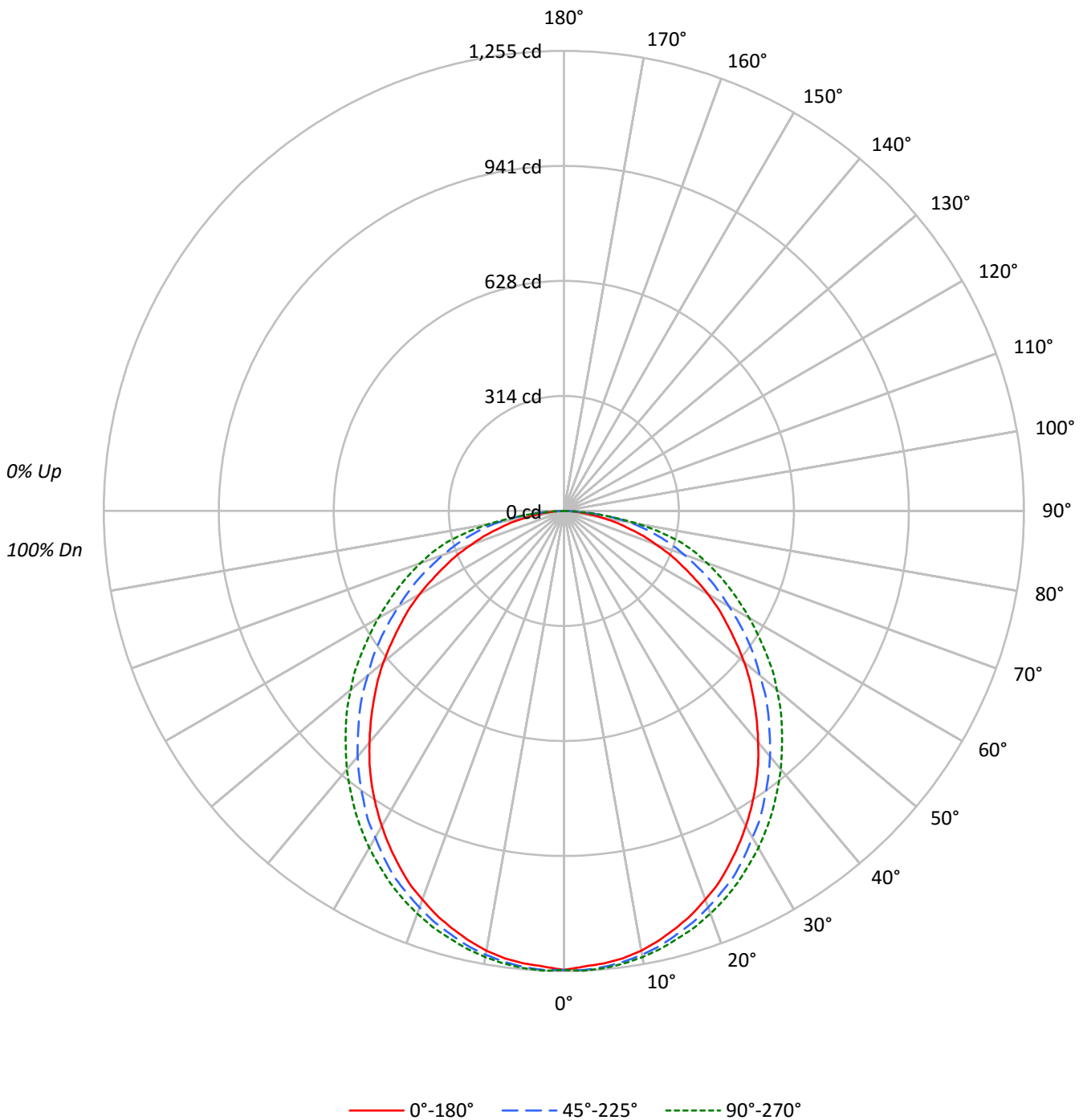
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3369	3369	3369
5°	3347	3373	3382
10°	3328	3359	3377
15°	3283	3329	3361
20°	3231	3296	3347
25°	3166	3263	3325
30°	3085	3196	3298
35°	2999	3138	3267
40°	2898	3075	3236
45°	2792	3003	3201
50°	2689	2921	3174
55°	2562	2868	3151
60°	2448	2799	3141
65°	2283	2782	3176
70°	2104	2758	3271
75°	1899	2797	3440
80°	1643	2879	3234
85°	1359	2418	2418



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.4	3.4
10°-20°	336.9	9.6
20°-30°	504.2	14.4
30°-40°	597.0	17.1
40°-50°	608.5	17.4
50°-60°	545.4	15.6
60°-70°	427.0	12.2
70°-80°	275.3	7.9
80°-90°	81.3	2.3
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°	959.5	27.5
0°-40°	1556.6	44.5
0°-60°	2710.4	77.6
0°-90°	3494.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3494.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1239	1242	1249	1250	1252	118
15°	1179	1185	1195	1205	1206	332
25°	1066	1076	1099	1113	1120	491
35°	913	924	955	985	994	571
45°	734	750	789	830	841	567
55°	546	564	611	654	672	490
65°	359	380	437	479	499	356
75°	183	210	269	315	331	196
85°	44	60	78	78	78	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.0	1252.0	1252.0	1252.0	1252.0
2.5°	1243.9	1247.1	1253.6	1255.3	1255.3
5°	1239.0	1242.2	1248.7	1250.4	1252.0
7.5°	1230.8	1232.4	1240.6	1243.9	1245.5
10°	1217.8	1221.0	1229.2	1234.1	1235.7
12.5°	1199.8	1204.7	1214.5	1221.0	1222.7
15°	1178.6	1185.2	1195.0	1204.7	1206.4
17.5°	1155.8	1162.3	1175.4	1186.8	1190.1
20°	1128.1	1136.3	1150.9	1164.0	1168.9
22.5°	1100.4	1106.9	1124.9	1141.2	1146.0
25°	1066.2	1075.9	1098.8	1113.4	1120.0
27.5°	1030.3	1041.7	1064.5	1084.1	1090.6
30°	992.8	1004.2	1028.7	1053.1	1061.3
32.5°	953.7	966.7	996.1	1020.5	1028.7
35°	912.9	924.3	955.3	984.7	994.4
37.5°	870.5	880.3	916.2	947.2	956.9
40°	824.9	837.9	875.4	911.3	921.1
42.5°	779.2	793.9	831.4	870.5	880.3
45°	733.6	749.9	789.0	829.8	841.2
47.5°	689.6	702.6	746.6	785.8	802.1
50°	642.3	655.3	697.7	741.8	758.1
52.5°	593.4	611.3	657.0	699.4	718.9
55°	546.1	564.1	611.3	653.7	671.7
57.5°	502.1	516.8	565.7	609.7	627.6
60°	454.8	467.9	520.0	567.3	583.6
62.5°	404.3	423.9	477.7	521.7	541.2
65°	358.6	379.8	436.9	479.3	498.8
67.5°	316.3	335.8	391.3	436.9	458.1
70°	267.4	293.4	350.5	396.1	415.7
72.5°	228.2	251.1	309.7	355.4	376.6
75°	182.6	210.3	269.0	314.6	330.9
77.5°	145.1	172.8	228.2	264.1	272.2
80°	106.0	133.7	185.8	203.8	208.7
82.5°	71.7	97.8	133.7	138.6	140.2
85°	44.0	60.3	78.3	78.3	78.3
87.5°	21.2	24.5	27.7	26.1	26.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)