

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: P309081

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-4500K**

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: P309081
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-4500K
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: 3556.0 lumens
Efficiency: N/A
Efficacy: 107.8 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

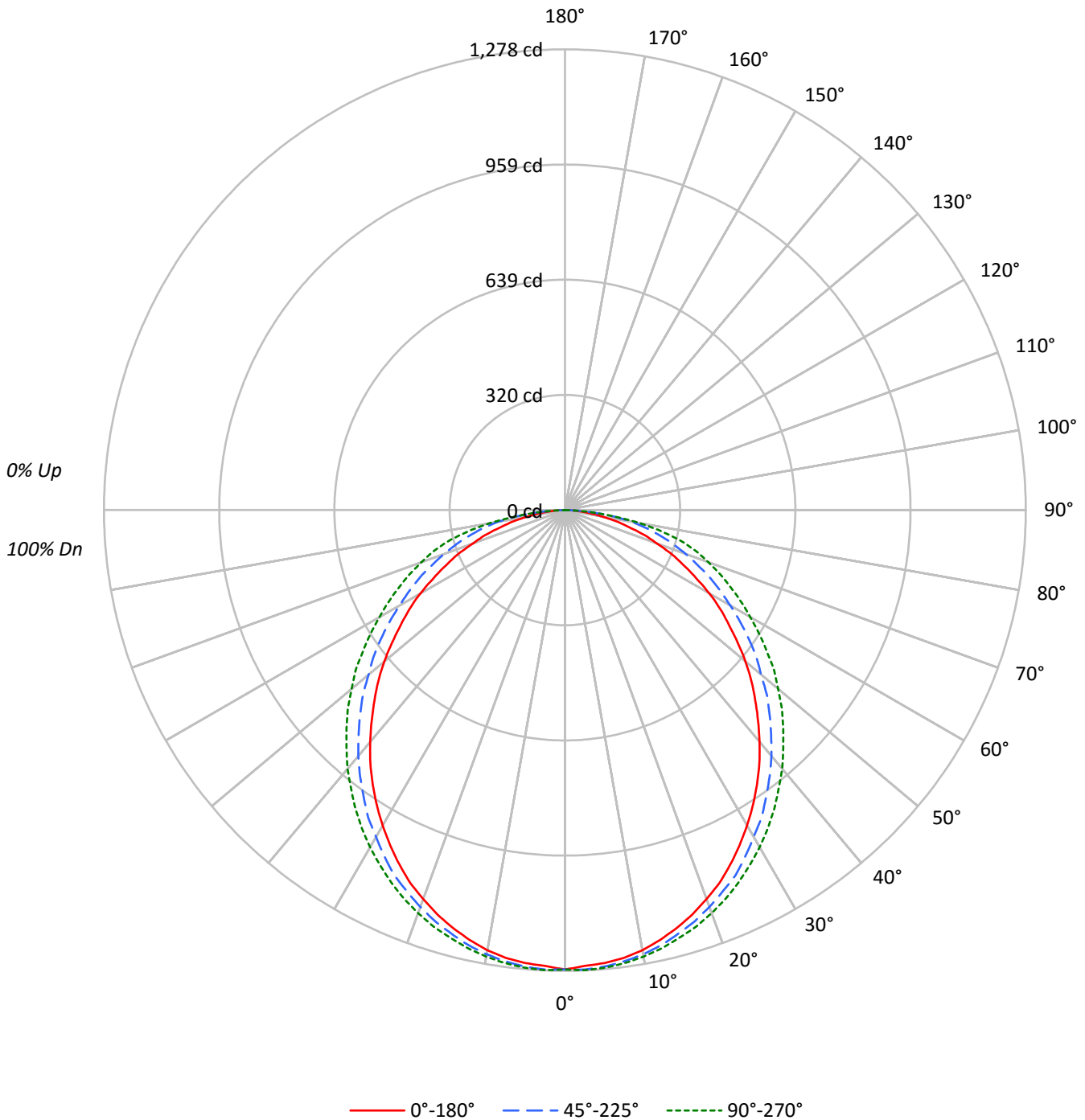
Input Watts (W): 33
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3429	3429	3429
5°	3406	3433	3442
10°	3387	3418	3436
15°	3342	3388	3421
20°	3288	3355	3407
25°	3222	3320	3384
30°	3140	3253	3356
35°	3052	3194	3325
40°	2949	3130	3293
45°	2841	3056	3258
50°	2737	2973	3230
55°	2608	2919	3207
60°	2491	2849	3197
65°	2324	2832	3233
70°	2141	2806	3329
75°	1932	2847	3502
80°	1671	2930	3292
85°	1383	2458	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.5	3.4
10°-20°	342.9	9.6
20°-30°	513.1	14.4
30°-40°	607.6	17.1
40°-50°	619.3	17.4
50°-60°	555.0	15.6
60°-70°	434.6	12.2
70°-80°	280.2	7.9
80°-90°	82.8	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°	976.5	27.5
0°-40°	1584.2	44.5
0°-60°	2758.5	77.6
0°-90°	3556.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3556.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1274	1274	1274	1274	1274	
5°	1261	1264	1271	1273	1274	120
15°	1200	1206	1216	1226	1228	338
25°	1085	1095	1118	1133	1140	499
35°	929	941	972	1002	1012	581
45°	747	763	803	844	856	577
55°	556	574	622	665	684	498
65°	365	387	445	488	508	363
75°	186	214	274	320	337	199
85°	45	61	80	80	80	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1274.2	1274.2	1274.2	1274.2	1274.2
2.5°	1265.9	1269.2	1275.9	1277.5	1277.5
5°	1261.0	1264.3	1270.9	1272.6	1274.2
7.5°	1252.7	1254.3	1262.6	1265.9	1267.6
10°	1239.4	1242.7	1251.0	1256.0	1257.6
12.5°	1221.1	1226.1	1236.1	1242.7	1244.4
15°	1199.6	1206.2	1216.2	1226.1	1227.8
17.5°	1176.3	1183.0	1196.2	1207.9	1211.2
20°	1148.1	1156.4	1171.4	1184.6	1189.6
22.5°	1119.9	1126.6	1144.8	1161.4	1166.4
25°	1085.1	1095.0	1118.3	1133.2	1139.8
27.5°	1048.6	1060.2	1083.4	1103.3	1110.0
30°	1010.4	1022.0	1046.9	1071.8	1080.1
32.5°	970.6	983.9	1013.7	1038.6	1046.9
35°	929.1	940.7	972.3	1002.1	1012.1
37.5°	886.0	895.9	932.4	964.0	973.9
40°	839.5	852.8	891.0	927.5	937.4
42.5°	793.1	808.0	846.2	886.0	895.9
45°	746.6	763.2	803.0	844.5	856.1
47.5°	701.8	715.1	759.9	799.7	816.3
50°	653.7	667.0	710.1	754.9	771.5
52.5°	603.9	622.2	668.6	711.8	731.7
55°	555.8	574.1	622.2	665.3	683.6
57.5°	511.0	525.9	575.7	620.5	638.8
60°	462.9	476.2	529.3	577.4	594.0
62.5°	411.5	431.4	486.1	530.9	550.8
65°	365.0	386.6	444.7	487.8	507.7
67.5°	321.9	341.8	398.2	444.7	466.2
70°	272.1	298.6	356.7	403.2	423.1
72.5°	232.3	255.5	315.2	361.7	383.3
75°	185.8	214.0	273.8	320.2	336.8
77.5°	147.7	175.9	232.3	268.8	277.1
80°	107.8	136.1	189.1	207.4	212.4
82.5°	73.0	99.5	136.1	141.0	142.7
85°	44.8	61.4	79.6	79.6	79.6
87.5°	21.6	24.9	28.2	26.5	26.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)