

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: P311230

Luminaire Tested: **24FCZ2-30-UNV-L82765-S-CP125-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: P311230
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: 24FCZ2-30-UNV-L82765-S-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (168) 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: 2780.0 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

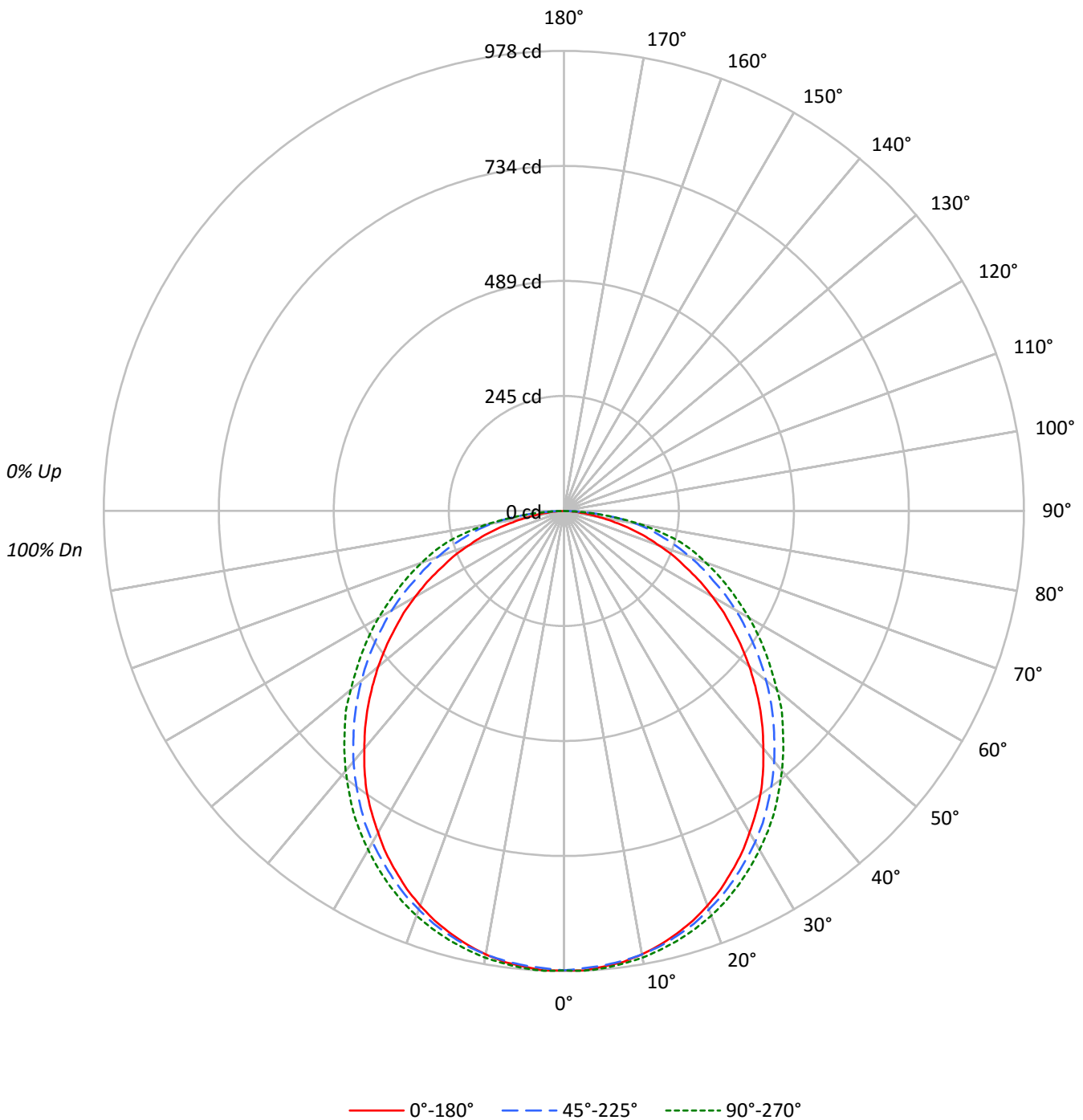
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1314	1314	1314
5°	1313	1310	1318
10°	1308	1308	1317
15°	1295	1301	1315
20°	1278	1291	1311
25°	1255	1278	1303
30°	1226	1264	1292
35°	1200	1243	1282
40°	1159	1222	1267
45°	1121	1198	1253
50°	1078	1176	1238
55°	1030	1154	1226
60°	981	1136	1224
65°	919	1116	1231
70°	851	1122	1264
75°	762	1143	1336
80°	616	1211	1307
85°	463	1064	1036



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	3.3
10°-20°	264.2	9.5
20°-30°	397.1	14.3
30°-40°	473.1	17.0
40°-50°	484.1	17.4
50°-60°	435.9	15.7
60°-70°	342.3	12.3
70°-80°	222.2	8.0
80°-90°	68.7	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°	753.8	27.1
0°-40°	1226.8	44.1
0°-60°	2146.8	77.2
0°-90°	2780.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2780.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	977	977	977	977	977	
5°	972	974	970	975	976	92
15°	930	932	934	942	944	262
25°	845	852	861	875	878	389
35°	730	739	757	775	781	456
45°	589	603	630	653	659	454
55°	439	458	492	518	523	393
65°	289	311	351	380	387	287
75°	147	175	220	250	257	155
85°	30	56	69	67	67	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	976.6	976.6	976.6	976.6	976.6
2.5°	977.5	977.5	973.1	977.5	978.4
5°	972.2	974.0	969.6	974.9	975.7
7.5°	966.9	966.9	964.3	969.6	970.5
10°	957.2	958.1	957.2	963.4	964.3
12.5°	944.8	946.6	947.5	953.7	954.6
15°	929.8	932.5	934.2	942.2	944.0
17.5°	913.1	915.7	920.1	928.9	930.7
20°	892.7	896.3	901.6	913.1	915.7
22.5°	870.7	874.2	883.0	893.6	898.0
25°	845.1	852.1	861.0	875.1	877.7
27.5°	819.5	825.6	837.1	852.1	855.7
30°	789.4	799.1	813.3	828.3	831.8
32.5°	760.3	770.0	786.8	802.7	807.1
35°	730.3	739.1	756.8	775.3	780.6
37.5°	695.8	707.3	726.7	745.3	750.6
40°	659.6	673.8	695.8	715.3	721.4
42.5°	625.2	640.2	662.3	683.5	690.5
45°	589.0	603.1	629.6	653.4	658.7
47.5°	551.9	567.8	596.0	619.9	628.7
50°	514.8	531.6	561.6	586.3	591.6
52.5°	477.7	495.4	527.2	553.7	556.3
55°	438.9	458.3	491.8	517.5	522.8
57.5°	403.5	420.3	456.5	483.0	489.2
60°	364.7	383.2	422.1	446.8	454.8
62.5°	327.6	347.0	387.7	412.4	419.4
65°	288.8	310.8	350.6	379.7	386.8
67.5°	255.2	276.4	318.8	347.0	354.1
70°	216.3	240.2	285.2	314.4	321.4
72.5°	182.8	207.5	252.5	280.8	291.4
75°	146.6	174.8	219.9	249.9	257.0
77.5°	111.3	143.9	189.9	212.8	212.8
80°	79.5	113.9	156.3	166.9	168.7
82.5°	52.1	85.7	115.7	114.8	114.8
85°	30.0	55.6	68.9	67.1	67.1
87.5°	11.5	23.0	24.7	24.7	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)