

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: P311199

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P311199
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: 24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 2877.0 lumens
Efficiency: N/A
Efficacy: 132.6 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

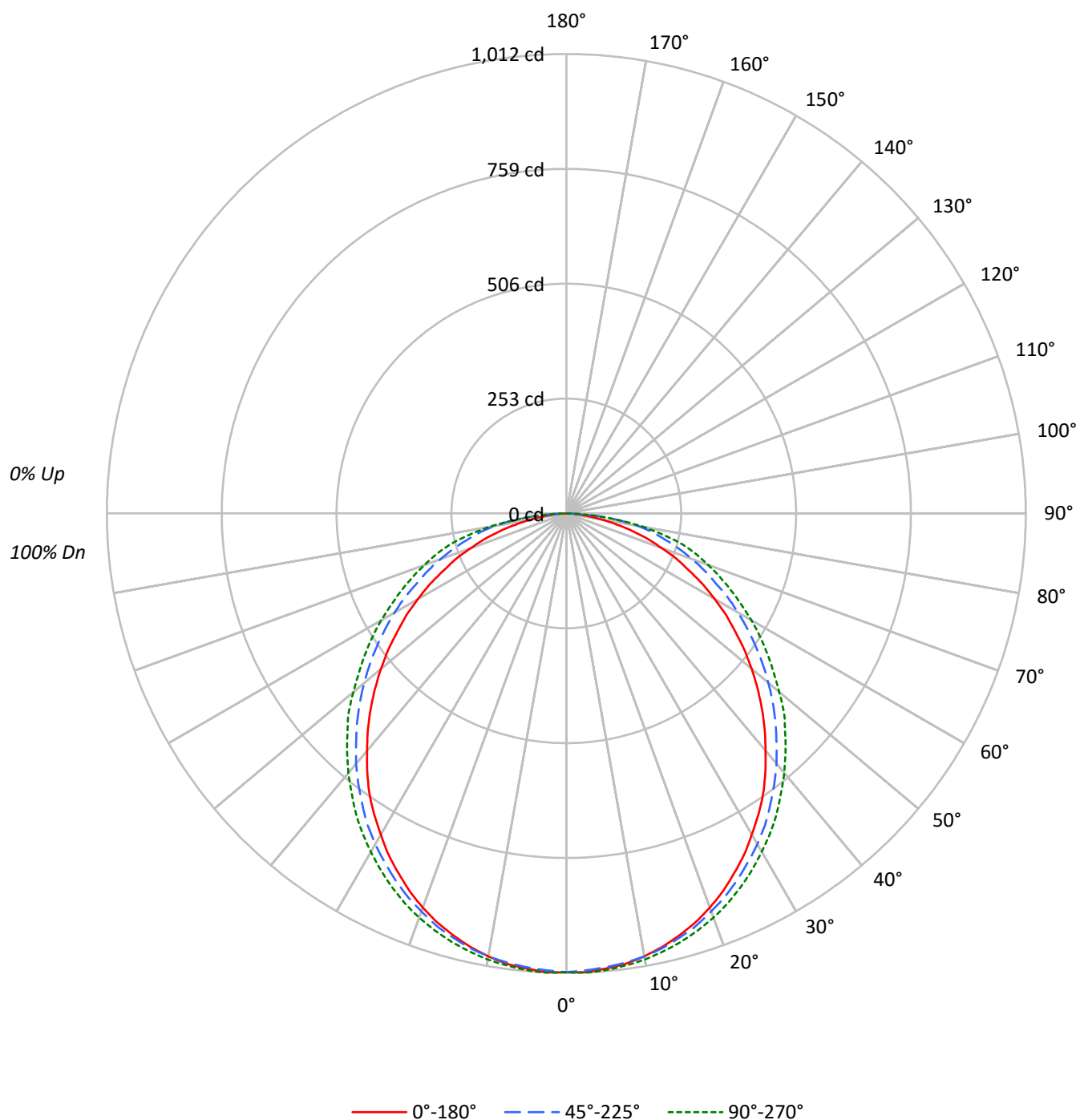
Input Watts (W): 21.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1360	1360	1360
5°	1359	1355	1364
10°	1353	1353	1363
15°	1340	1347	1361
20°	1323	1336	1357
25°	1298	1323	1349
30°	1269	1308	1337
35°	1241	1286	1327
40°	1199	1265	1311
45°	1160	1240	1297
50°	1115	1217	1282
55°	1065	1194	1269
60°	1016	1175	1266
65°	951	1155	1274
70°	881	1161	1308
75°	789	1183	1382
80°	637	1253	1352
85°	480	1101	1073



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.7	3.3
10°-20°	273.4	9.5
20°-30°	411.0	14.3
30°-40°	489.6	17.0
40°-50°	501.0	17.4
50°-60°	451.1	15.7
60°-70°	354.2	12.3
70°-80°	229.9	8.0
80°-90°	71.1	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°	780.1	27.1
0°-40°	1269.6	44.1
0°-60°	2221.8	77.2
0°-90°	2877.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2877.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1011	1011	1011	1011	1011	
5°	1006	1008	1003	1009	1010	96
15°	962	965	967	975	977	271
25°	874	882	891	906	908	403
35°	756	765	783	802	808	471
45°	610	624	652	676	682	470
55°	454	474	509	536	541	407
65°	299	322	363	393	400	297
75°	152	181	228	259	266	161
85°	31	58	71	70	70	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.7	1010.7	1010.7	1010.7	1010.7
2.5°	1011.6	1011.6	1007.1	1011.6	1012.5
5°	1006.1	1008.0	1003.4	1008.9	1009.8
7.5°	1000.7	1000.7	997.9	1003.4	1004.3
10°	990.6	991.5	990.6	997.0	997.9
12.5°	977.8	979.6	980.6	986.9	987.9
15°	962.3	965.0	966.8	975.1	976.9
17.5°	944.9	947.7	952.2	961.4	963.2
20°	923.9	927.5	933.0	944.9	947.7
22.5°	901.0	904.7	913.8	924.8	929.4
25°	874.5	881.9	891.0	905.6	908.4
27.5°	848.0	854.4	866.3	881.9	885.5
30°	817.0	827.0	841.6	857.2	860.8
32.5°	786.8	796.9	814.2	830.7	835.3
35°	755.7	764.9	783.2	802.4	807.8
37.5°	720.1	732.0	752.1	771.3	776.8
40°	682.6	697.3	720.1	740.2	746.6
42.5°	647.0	662.5	685.4	707.3	714.6
45°	609.5	624.2	651.6	676.2	681.7
47.5°	571.2	587.6	616.8	641.5	650.7
50°	532.8	550.1	581.2	606.8	612.3
52.5°	494.4	512.7	545.6	573.0	575.7
55°	454.2	474.3	509.0	535.5	541.0
57.5°	417.6	435.0	472.5	499.9	506.3
60°	377.4	396.6	436.8	462.4	470.6
62.5°	339.0	359.1	401.2	426.8	434.1
65°	298.8	321.7	362.8	393.0	400.3
67.5°	264.1	286.0	329.9	359.1	366.5
70°	223.9	248.6	295.2	325.3	332.6
72.5°	189.2	214.8	261.4	290.6	301.6
75°	151.7	180.9	227.5	258.6	265.9
77.5°	115.1	149.0	196.5	220.2	220.2
80°	82.2	117.9	161.7	172.7	174.5
82.5°	53.9	88.6	119.7	118.8	118.8
85°	31.1	57.6	71.3	69.5	69.5
87.5°	11.9	23.8	25.6	25.6	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)