

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: P310412

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CA125-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: P310412
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L82765-RDP-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" ACRYLIC SHEET
Light Source: (336) 4000K 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: 4312.0 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

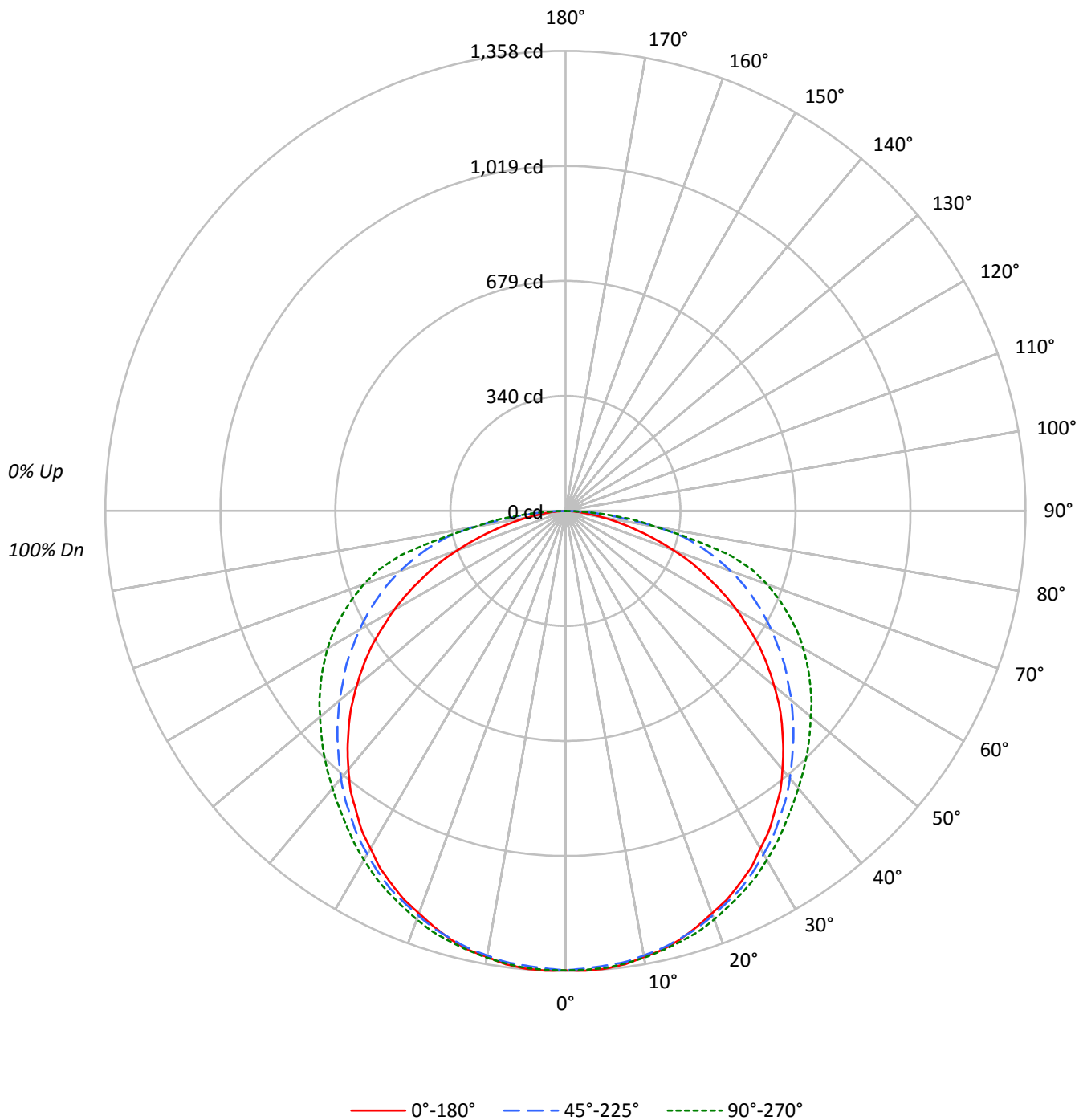
Input Watts (W): 58.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1824	1824	1824
5°	1831	1820	1829
10°	1826	1821	1829
15°	1823	1820	1832
20°	1810	1819	1837
25°	1803	1823	1842
30°	1788	1818	1848
35°	1771	1813	1855
40°	1751	1811	1878
45°	1721	1811	1921
50°	1683	1822	1979
55°	1641	1851	2067
60°	1571	1888	2181
65°	1471	1954	2315
70°	1338	2044	2491
75°	1134	2157	2602
80°	895	2171	2104
85°	661	1650	1849



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.6	3.0
10°-20°	370.2	8.6
20°-30°	566.1	13.1
30°-40°	692.1	16.0
40°-50°	737.6	17.1
50°-60°	705.2	16.4
60°-70°	597.4	13.9
70°-80°	401.5	9.3
80°-90°	113.3	2.6
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°	1064.9	24.7
0°-40°	1757.0	40.7
0°-60°	3199.8	74.2
0°-90°	4312.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4312.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1356	1356	1356	1356	1356	
5°	1356	1354	1347	1354	1354	129
15°	1309	1309	1307	1318	1315	369
25°	1215	1219	1228	1238	1240	560
35°	1078	1086	1104	1125	1129	675
45°	905	920	952	992	1010	698
55°	699	725	789	851	881	623
65°	462	509	614	695	727	459
75°	218	297	415	486	500	234
85°	43	88	107	116	120	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1356.0	1356.0	1356.0	1356.0	1356.0
2.5°	1358.1	1358.1	1351.7	1356.0	1356.0
5°	1356.0	1353.9	1347.4	1353.9	1353.9
7.5°	1349.6	1347.4	1343.2	1349.6	1347.4
10°	1336.8	1336.8	1332.5	1338.9	1338.9
12.5°	1326.1	1323.9	1321.8	1330.3	1328.2
15°	1308.9	1308.9	1306.8	1317.5	1315.4
17.5°	1287.6	1289.7	1291.8	1300.4	1302.5
20°	1264.0	1268.3	1270.4	1283.3	1283.3
22.5°	1242.6	1244.8	1249.1	1261.9	1261.9
25°	1214.8	1219.1	1227.7	1238.4	1240.5
27.5°	1187.0	1189.2	1199.9	1214.8	1217.0
30°	1150.7	1157.1	1169.9	1187.0	1189.2
32.5°	1118.6	1125.0	1140.0	1157.1	1161.4
35°	1078.0	1086.5	1103.6	1125.0	1129.3
37.5°	1041.6	1048.0	1069.4	1092.9	1099.3
40°	996.7	1009.5	1030.9	1058.7	1069.4
42.5°	951.8	964.6	990.3	1026.6	1039.5
45°	904.7	919.7	951.8	992.4	1009.5
47.5°	857.7	874.8	911.1	958.2	977.4
50°	804.2	825.6	870.5	924.0	945.4
52.5°	752.9	778.5	827.7	887.6	915.4
55°	699.4	725.1	789.2	851.2	881.2
57.5°	639.5	673.7	744.3	814.9	847.0
60°	583.9	616.0	701.5	778.5	810.6
62.5°	524.0	566.8	658.8	740.0	772.1
65°	462.0	509.0	613.8	695.1	727.2
67.5°	406.4	457.7	568.9	650.2	682.3
70°	340.1	404.2	519.7	601.0	633.1
72.5°	278.0	348.6	468.4	547.5	577.5
75°	218.2	297.3	414.9	485.5	500.5
77.5°	162.5	246.0	359.3	389.3	378.6
80°	115.5	196.8	280.2	265.2	271.6
82.5°	74.9	149.7	173.2	196.8	203.2
85°	42.8	87.7	106.9	115.5	119.8
87.5°	19.2	32.1	42.8	42.8	40.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)