

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: P309714

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-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: P309714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 4422.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

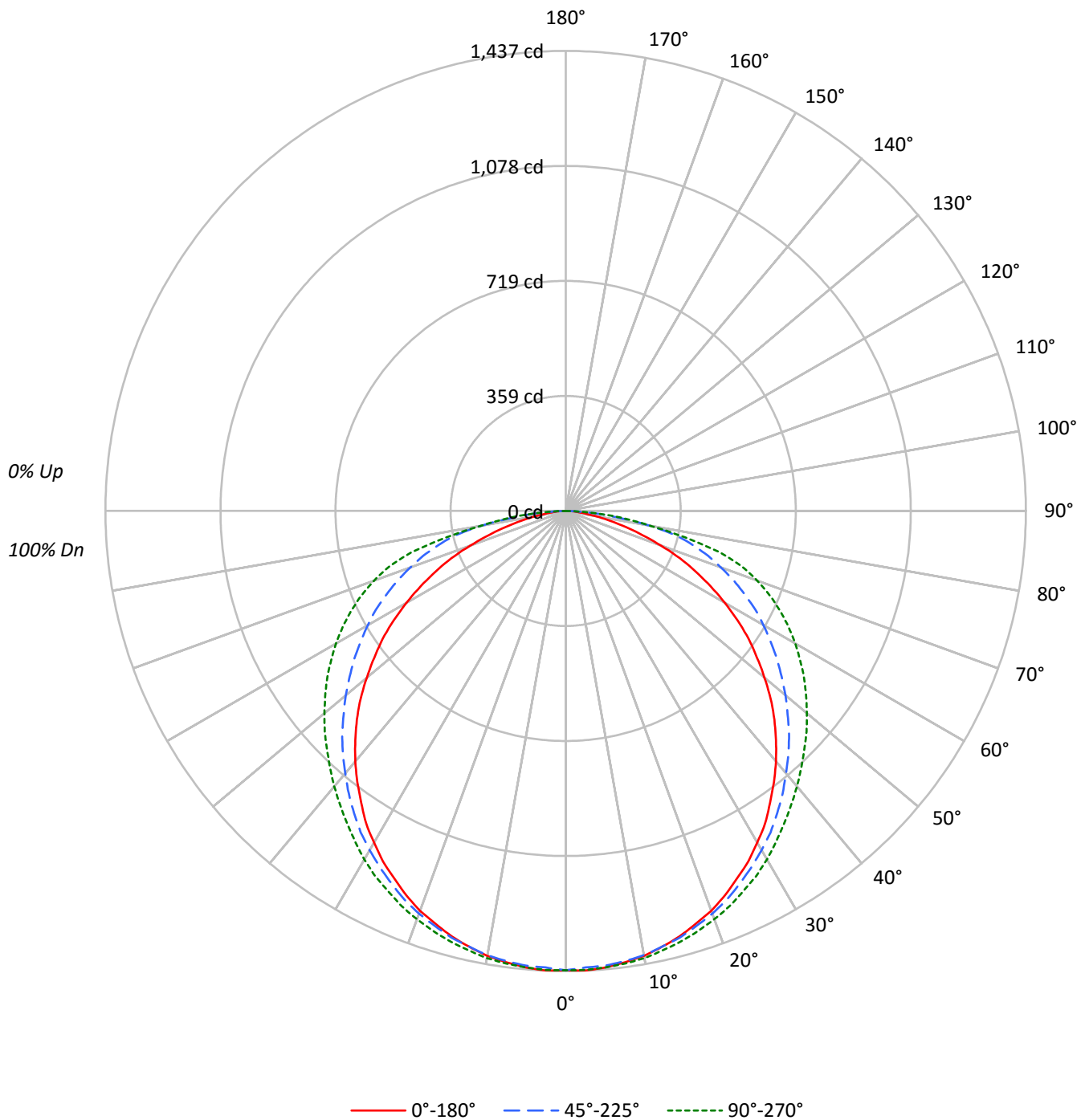
Input Watts (W): 54.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1930	1930	1930
5°	1933	1925	1933
10°	1927	1925	1937
15°	1916	1921	1939
20°	1903	1917	1943
25°	1880	1907	1946
30°	1858	1901	1953
35°	1827	1891	1955
40°	1795	1879	1974
45°	1754	1878	2004
50°	1697	1876	2058
55°	1637	1889	2132
60°	1544	1918	2227
65°	1426	1963	2352
70°	1245	2032	2505
75°	1011	2137	2589
80°	746	2094	2094
85°	571	1544	1743



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.9	3.1
10°-20°	390.3	8.8
20°-30°	594.2	13.4
30°-40°	721.5	16.3
40°-50°	762.2	17.2
50°-60°	719.2	16.3
60°-70°	598.0	13.5
70°-80°	393.4	8.9
80°-90°	107.2	2.4
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°	1120.4	25.3
0°-40°	1841.8	41.7
0°-60°	3323.3	75.2
0°-90°	4422.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4422.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1435	1435	1435	1435	1435	
5°	1431	1431	1426	1431	1431	136
15°	1376	1377	1379	1392	1392	388
25°	1266	1274	1285	1307	1311	584
35°	1113	1126	1152	1181	1190	696
45°	922	940	987	1035	1053	710
55°	698	728	805	881	909	622
65°	448	500	616	707	739	443
75°	194	283	411	487	498	209
85°	37	82	100	111	113	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1434.7	1434.7	1434.7	1434.7	1434.7
2.5°	1436.6	1434.7	1427.3	1434.7	1434.7
5°	1431.0	1431.0	1425.5	1431.0	1431.0
7.5°	1421.8	1421.8	1418.1	1425.5	1425.5
10°	1410.7	1410.7	1408.8	1418.1	1418.1
12.5°	1394.0	1395.8	1394.0	1405.1	1405.1
15°	1375.5	1377.3	1379.2	1392.1	1392.1
17.5°	1351.4	1355.1	1358.8	1373.6	1375.5
20°	1329.2	1331.1	1338.5	1355.1	1357.0
22.5°	1299.6	1305.1	1314.4	1331.1	1336.6
25°	1266.3	1273.7	1284.8	1307.0	1310.7
27.5°	1234.8	1240.3	1255.1	1279.2	1286.6
30°	1195.9	1205.2	1223.7	1247.7	1257.0
32.5°	1158.9	1168.1	1190.4	1216.3	1223.7
35°	1112.6	1125.6	1151.5	1181.1	1190.4
37.5°	1068.2	1081.1	1112.6	1145.9	1157.0
40°	1021.9	1036.7	1070.0	1108.9	1123.7
42.5°	971.9	992.3	1029.3	1071.9	1088.5
45°	921.9	940.4	986.7	1034.9	1053.4
47.5°	868.2	890.5	940.4	997.8	1020.0
50°	810.8	838.6	896.0	958.9	983.0
52.5°	753.5	784.9	849.7	920.1	946.0
55°	697.9	727.5	805.3	881.2	909.0
57.5°	636.8	673.9	759.0	840.5	868.2
60°	573.9	614.6	712.7	797.9	827.5
62.5°	510.9	557.2	668.3	753.5	784.9
65°	448.0	499.8	616.5	707.2	738.7
67.5°	386.9	444.3	568.3	659.0	690.5
70°	316.6	388.8	516.5	605.4	636.8
72.5°	251.8	335.1	466.5	549.8	577.6
75°	194.4	283.2	411.0	486.9	498.0
77.5°	142.5	231.4	353.6	379.5	381.4
80°	96.3	185.1	270.3	266.6	270.3
82.5°	62.9	138.8	170.3	190.7	192.5
85°	37.0	81.5	100.0	111.1	112.9
87.5°	18.5	27.8	35.2	37.0	40.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)