

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: P309619

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-HRP-CP187-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: P309619
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: 24FCZ2-55HE-UNV-L82765-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 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: 3518.0 lumens
Efficiency: N/A
Efficacy: 81.2 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

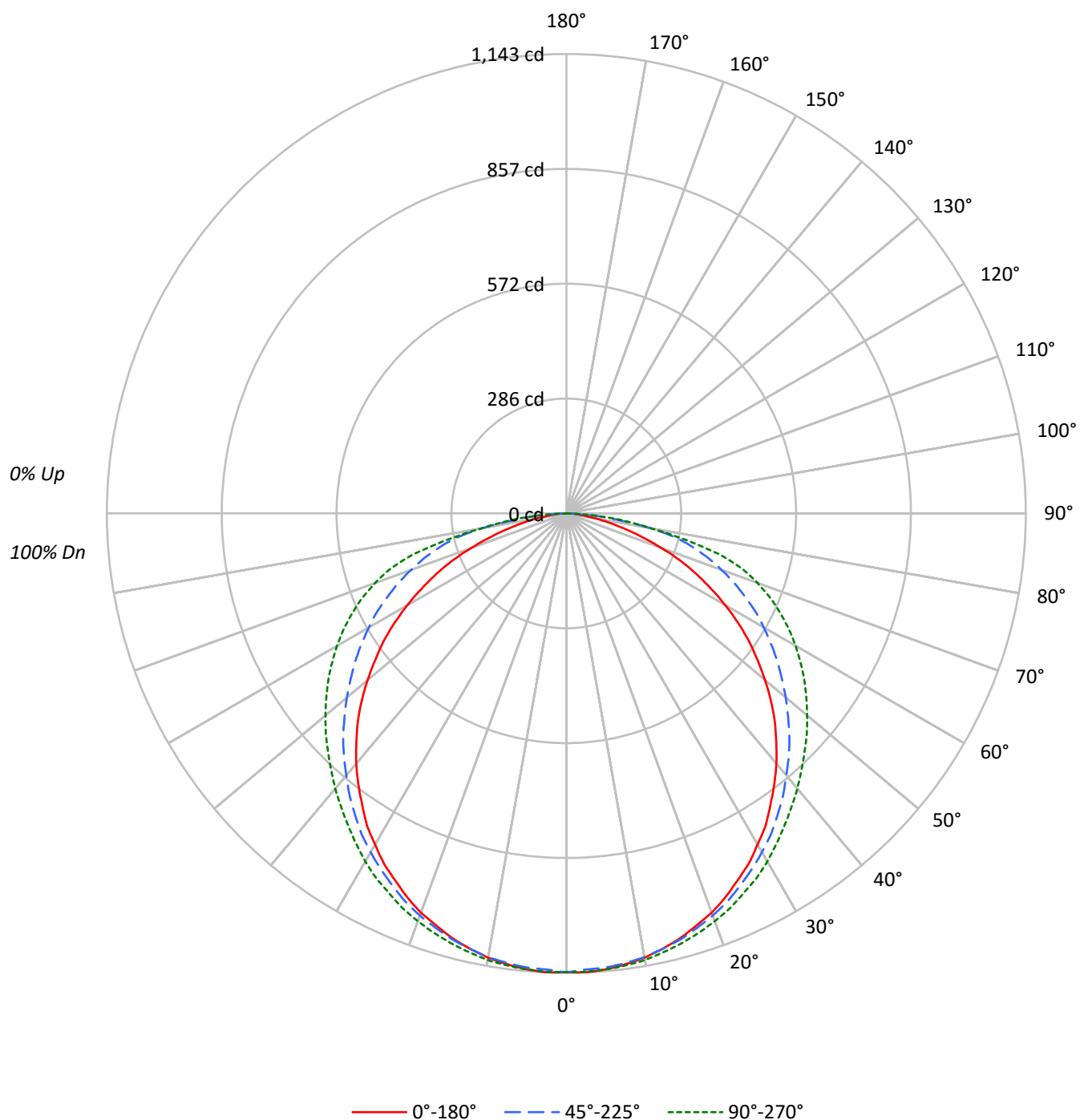
Input Watts (W): 43.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309619

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-HRP-CP187-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P309619

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-HRP-CP187-W2A-U-3500K

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°	1536	1536	1536
5°	1538	1532	1538
10°	1533	1531	1541
15°	1524	1528	1543
20°	1514	1525	1546
25°	1496	1517	1548
30°	1478	1512	1554
35°	1454	1505	1555
40°	1428	1495	1570
45°	1396	1494	1595
50°	1350	1492	1637
55°	1302	1503	1696
60°	1229	1526	1771
65°	1135	1561	1871
70°	991	1616	1993
75°	804	1700	2060
80°	594	1666	1666
85°	455	1227	1386



TEST NUMBER: P309619

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-HRP-CP187-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	3.1
10°-20°	310.5	8.8
20°-30°	472.7	13.4
30°-40°	574.0	16.3
40°-50°	606.4	17.2
50°-60°	572.2	16.3
60°-70°	475.8	13.5
70°-80°	313.0	8.9
80°-90°	85.3	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°	891.3	25.3
0°-40°	1465.3	41.7
0°-60°	2643.9	75.2
0°-90°	3518.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3518.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1141	1141	1141	1141	1141	
5°	1138	1138	1134	1138	1138	108
15°	1094	1096	1097	1108	1108	309
25°	1007	1013	1022	1040	1043	465
35°	885	896	916	940	947	554
45°	734	748	785	823	838	565
55°	555	579	641	701	723	495
65°	356	398	490	563	588	352
75°	155	225	327	387	396	167
85°	30	65	80	88	90	36
90°	0	0	0	0	0	



TEST NUMBER: P309619

CATALOG NUMBER: 24FCZ2-55HE-UNV-L82765-HRP-CP187-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1141.4	1141.4	1141.4	1141.4	1141.4
2.5°	1142.9	1141.4	1135.5	1141.4	1141.4
5°	1138.5	1138.5	1134.1	1138.5	1138.5
7.5°	1131.1	1131.1	1128.2	1134.1	1134.1
10°	1122.3	1122.3	1120.8	1128.2	1128.2
12.5°	1109.0	1110.5	1109.0	1117.9	1117.9
15°	1094.3	1095.8	1097.2	1107.5	1107.5
17.5°	1075.1	1078.1	1081.0	1092.8	1094.3
20°	1057.5	1058.9	1064.8	1078.1	1079.6
22.5°	1033.9	1038.3	1045.7	1058.9	1063.4
25°	1007.4	1013.3	1022.1	1039.8	1042.7
27.5°	982.4	986.8	998.6	1017.7	1023.6
30°	951.4	958.8	973.5	992.7	1000.0
32.5°	922.0	929.3	947.0	967.6	973.5
35°	885.2	895.5	916.1	939.6	947.0
37.5°	849.8	860.1	885.2	911.7	920.5
40°	813.0	824.8	851.3	882.2	894.0
42.5°	773.2	789.4	818.9	852.7	866.0
45°	733.5	748.2	785.0	823.3	838.0
47.5°	690.7	708.4	748.2	793.8	811.5
50°	645.1	667.2	712.8	762.9	782.1
52.5°	599.4	624.5	676.0	732.0	752.6
55°	555.2	578.8	640.7	701.1	723.1
57.5°	506.6	536.1	603.8	668.6	690.7
60°	456.6	489.0	567.0	634.8	658.3
62.5°	406.5	443.3	531.7	599.4	624.5
65°	356.4	397.7	490.4	562.6	587.6
67.5°	307.8	353.5	452.1	524.3	549.4
70°	251.8	309.3	410.9	481.6	506.6
72.5°	200.3	266.6	371.1	437.4	459.5
75°	154.6	225.3	327.0	387.3	396.2
77.5°	113.4	184.1	281.3	301.9	303.4
80°	76.6	147.3	215.0	212.1	215.0
82.5°	50.1	110.5	135.5	151.7	153.2
85°	29.5	64.8	79.5	88.4	89.8
87.5°	14.7	22.1	28.0	29.5	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)