

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735894

Luminaire Tested: S122DRP-S865D930-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735894
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S865D930-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

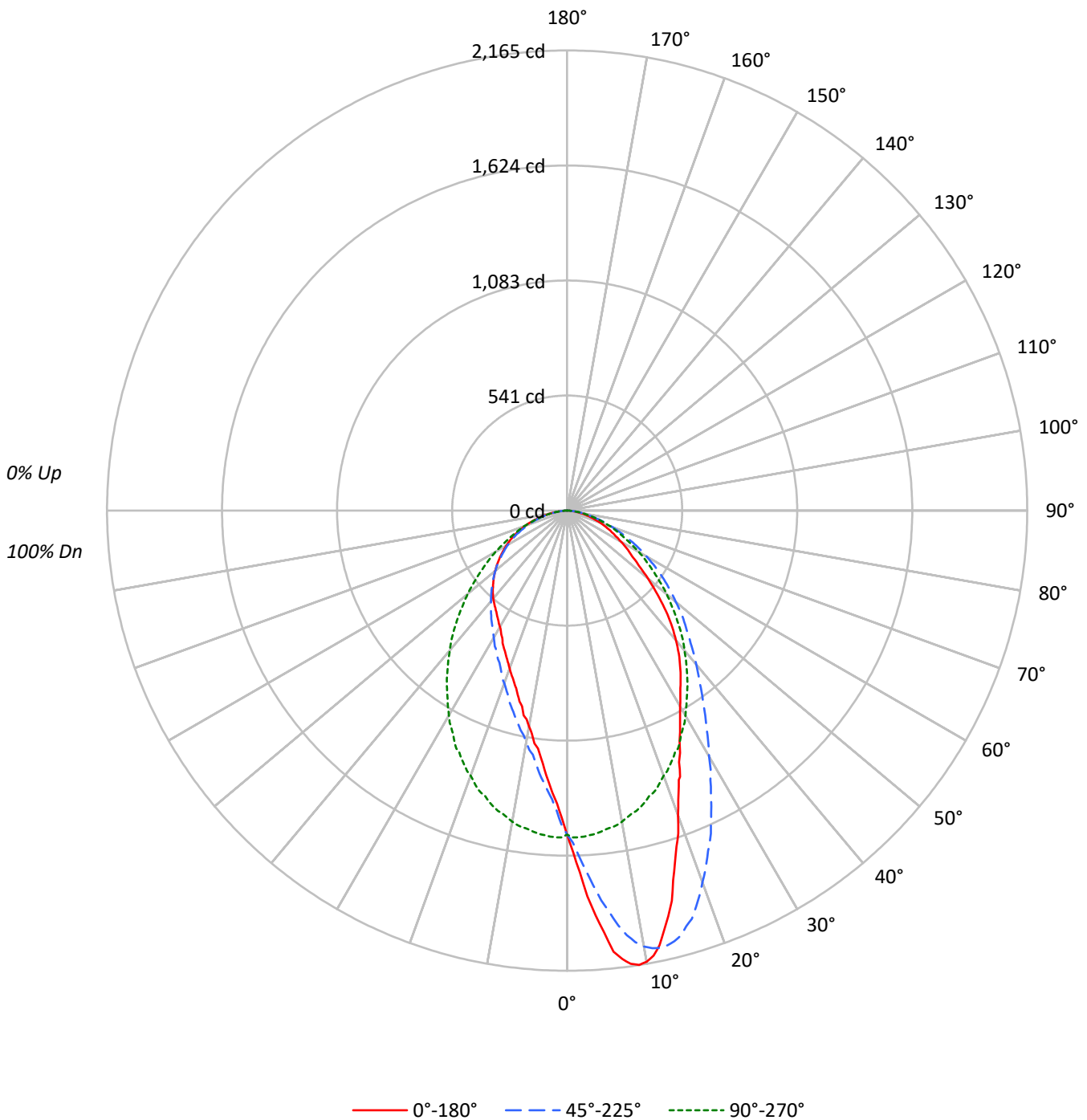
Lumens per Lamp: N/A
Luminaire Lumens: 3101.6 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 35
Input Voltage (V): 120
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: 24 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74				74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64				64
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56				56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49				49
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44				44
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39				39
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35				35
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32				32
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	29301	29301	29301	29301	29301
5°	38429	35518	29453	24703	23570
10°	42063	40652	29017	21594	20121
15°	37841	41176	28229	19493	17846
20°	31224	38083	27152	17681	16180
25°	26686	33974	26197	16354	14999
30°	23602	29672	24696	15323	14045
35°	21832	26281	23157	14602	13645
40°	19980	23712	21556	13986	13565
45°	17601	21646	19936	13556	13385
50°	14820	19957	18265	13190	13220
55°	12463	18361	16501	12744	12992
60°	11237	16596	14981	12363	12728
65°	10197	14581	13344	11771	12485
70°	9183	12600	12010	10891	11836
75°	8013	10657	10271	9885	10813
80°	6730	8346	8346	8579	9043
85°	5072	5999	6241	6704	6462

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 31782 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	4.8
10°-20°	411.7	13.3
20°-30°	540.0	17.4
30°-40°	570.7	18.4
40°-50°	529.9	17.1
50°-60°	424.1	13.7
60°-70°	290.0	9.4
70°-80°	149.7	4.8
80°-90°	35.5	1.1
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°	1101.7	35.5
0°-40°	1672.4	53.9
0°-60°	2626.4	84.7
0°-90°	3101.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3101.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1524	1524	1524	1524	1524	
5°	1992	1841	1526	1280	1222	196
15°	1902	2069	1419	980	897	522
25°	1258	1602	1235	771	707	580
35°	930	1120	987	622	582	581
45°	648	796	733	499	492	497
55°	372	548	492	380	388	341
65°	224	321	293	259	274	222
75°	108	144	138	133	146	115
85°	23	27	28	30	29	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1524.4	1524.4	1524.4	1524.4	1524.4	1524.4	1524.4	1524.4	1524.4
1°	1608.2	1599.8	1563.2	1565.3	1538.0	1507.6	1479.4	1461.5	1446.9
2°	1702.5	1685.8	1628.1	1599.8	1538.0	1473.1	1414.4	1398.7	1378.8
3°	1816.7	1776.9	1697.3	1630.2	1535.9	1441.6	1361.0	1332.7	1329.5
4°	1908.9	1873.3	1767.5	1661.7	1530.7	1411.3	1320.1	1289.7	1275.1
5°	1991.7	1968.6	1840.8	1701.5	1526.5	1381.9	1280.3	1238.4	1221.6
6°	2087.0	2039.9	1899.5	1741.3	1519.2	1353.6	1244.7	1194.4	1171.3
7°	2125.8	2096.5	1965.5	1767.5	1509.7	1321.2	1199.6	1145.1	1128.4
8°	2153.0	2141.5	2017.9	1810.4	1505.5	1290.8	1159.8	1126.3	1106.4
9°	2164.6	2155.1	2055.6	1828.2	1498.2	1275.1	1139.9	1084.4	1062.4
10°	2155.1	2159.3	2082.8	1855.5	1486.7	1242.6	1106.4	1058.2	1030.9
11°	2133.1	2143.6	2097.5	1886.9	1472.0	1216.4	1076.0	1026.7	1000.6
12°	2091.2	2114.3	2103.8	1908.9	1458.4	1193.3	1055.0	1007.9	984.8
13°	2026.3	2077.6	2099.6	1918.3	1450.0	1167.1	1028.8	974.4	945.0
14°	1967.6	2021.0	2088.1	1939.3	1435.4	1137.8	1004.7	950.3	925.1
15°	1901.6	1963.4	2069.2	1945.6	1418.6	1113.7	979.6	919.9	896.8
16°	1809.4	1892.2	2034.6	1952.9	1398.7	1086.5	956.6	900.0	869.6
17°	1732.9	1822.0	2008.4	1957.1	1388.2	1065.5	936.6	869.6	849.7
18°	1662.7	1763.3	1961.3	1954.0	1371.4	1041.4	907.3	847.6	828.7
19°	1607.2	1688.9	1914.2	1946.6	1348.4	1018.4	885.3	831.9	809.9
20°	1526.5	1620.8	1861.8	1943.5	1327.4	997.4	864.4	809.9	791.0
21°	1459.5	1555.8	1813.6	1933.0	1312.8	977.5	848.6	788.9	772.2
22.5°	1371.4	1456.3	1732.9	1913.1	1280.3	944.0	814.1	769.0	746.0
23°	1361.0	1433.3	1711.9	1906.8	1270.9	936.6	802.5	757.5	738.6
24°	1295.0	1371.4	1662.7	1886.9	1246.8	913.6	783.7	743.9	721.9
25°	1258.3	1321.2	1601.9	1868.1	1235.2	892.6	771.1	726.1	707.2
26°	1207.0	1279.2	1547.5	1840.8	1210.1	873.8	751.2	710.3	692.5
27°	1169.2	1230.0	1490.9	1820.9	1180.8	853.9	735.5	694.6	672.6
28°	1132.6	1191.2	1436.4	1788.4	1159.8	831.9	724.0	681.0	660.1
29°	1094.9	1146.2	1392.4	1763.3	1139.9	813.0	706.2	663.2	643.3
30°	1063.4	1110.6	1336.9	1729.8	1112.7	791.0	690.4	650.6	632.8
32.5°	991.1	1030.9	1223.7	1650.1	1047.7	747.0	652.7	616.0	605.6
35°	930.4	956.6	1120.0	1561.1	986.9	699.9	622.3	586.7	581.5
37.5°	866.5	891.6	1025.7	1467.8	923.0	656.9	587.8	564.7	560.5
40°	796.3	829.8	945.0	1375.6	859.1	615.0	557.4	539.6	540.6
42.5°	726.1	764.8	866.5	1267.7	799.4	575.2	528.0	515.5	517.6
45°	647.5	696.7	796.3	1169.2	733.4	537.5	498.7	492.4	492.4
47.5°	565.8	628.6	735.5	1067.6	670.5	499.8	470.4	466.2	468.3
50°	495.6	552.1	667.4	969.1	610.8	465.2	441.1	440.0	442.1
52.5°	426.4	483.0	607.7	876.9	550.0	433.7	412.8	412.8	414.9
55°	371.9	415.9	547.9	780.5	492.4	397.1	380.3	383.5	387.7
57.5°	334.2	363.6	489.3	688.3	439.0	361.5	351.0	353.1	358.3
60°	292.3	315.4	431.7	603.5	389.7	326.9	321.6	325.8	331.1
62.5°	254.6	274.5	377.2	527.0	336.3	293.4	291.3	297.5	302.8
65°	224.2	237.8	320.6	449.5	293.4	259.8	258.8	268.2	274.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	192.8	203.3	271.4	376.1	250.4	226.3	226.3	236.8	242.0
70°	163.4	171.8	224.2	310.1	213.7	192.8	193.8	206.4	210.6
72.5°	133.1	140.4	182.3	249.4	172.9	161.3	164.5	175.0	179.2
75°	107.9	113.2	143.5	197.0	138.3	128.9	133.1	142.5	145.6
77.5°	82.8	87.0	105.8	144.6	105.8	100.6	104.8	113.2	113.2
80°	60.8	61.8	75.4	101.6	75.4	72.3	77.5	81.7	81.7
82.5°	39.8	41.9	49.2	65.0	50.3	49.2	51.3	54.5	54.5
85°	23.0	24.1	27.2	35.6	28.3	28.3	30.4	30.4	29.3
87.5°	9.4	10.5	11.5	13.6	12.6	13.6	13.6	11.5	12.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	20.95	22.48	21.32	22.79	23.10	20.53	22.05	20.90	22.37	22.68
	3H	22.16	23.52	22.53	23.85	24.21	22.04	23.41	22.42	23.74	24.10
	4H	22.55	23.84	22.95	24.19	24.56	22.57	23.85	22.97	24.20	24.58
	6H	22.81	23.99	23.22	24.36	24.75	22.92	24.11	23.33	24.47	24.87
	8H	22.87	24.00	23.30	24.39	24.79	23.02	24.15	23.45	24.54	24.94
	12H	22.90	23.98	23.33	24.36	24.79	23.07	24.15	23.50	24.53	24.96
4H	2H	22.01	23.29	22.41	23.64	24.02	21.60	22.88	22.00	23.23	23.61
	3H	23.37	24.44	23.78	24.84	25.24	23.23	24.29	23.64	24.69	25.09
	4H	23.83	24.79	24.27	25.21	25.65	23.81	24.77	24.24	25.18	25.62
	6H	24.15	24.98	24.60	25.42	25.88	24.23	25.06	24.69	25.50	25.96
	8H	24.23	25.01	24.69	25.45	25.92	24.35	25.12	24.81	25.57	26.04
	12H	24.27	24.97	24.76	25.45	25.92	24.42	25.12	24.90	25.59	26.07
8H	4H	24.19	24.97	24.65	25.41	25.88	24.15	24.93	24.61	25.37	25.84
	6H	24.59	25.24	25.09	25.73	26.20	24.67	25.31	25.16	25.80	26.28
	8H	24.71	25.29	25.23	25.80	26.29	24.83	25.41	25.35	25.92	26.41
	12H	24.80	25.31	25.31	25.80	26.37	24.96	25.47	25.47	25.96	26.52
12H	4H	24.21	24.91	24.70	25.39	25.86	24.17	24.86	24.65	25.34	25.81
	6H	24.64	25.22	25.15	25.73	26.21	24.71	25.29	25.22	25.80	26.29
	8H	24.81	25.32	25.32	25.81	26.37	24.93	25.44	25.44	25.93	26.49