

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735895

Luminaire Tested: S122DR-S865D935-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735895  
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: S122DR-S865D935-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3275.5 lumens  
Efficiency: N/A  
Efficacy: 93.6 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

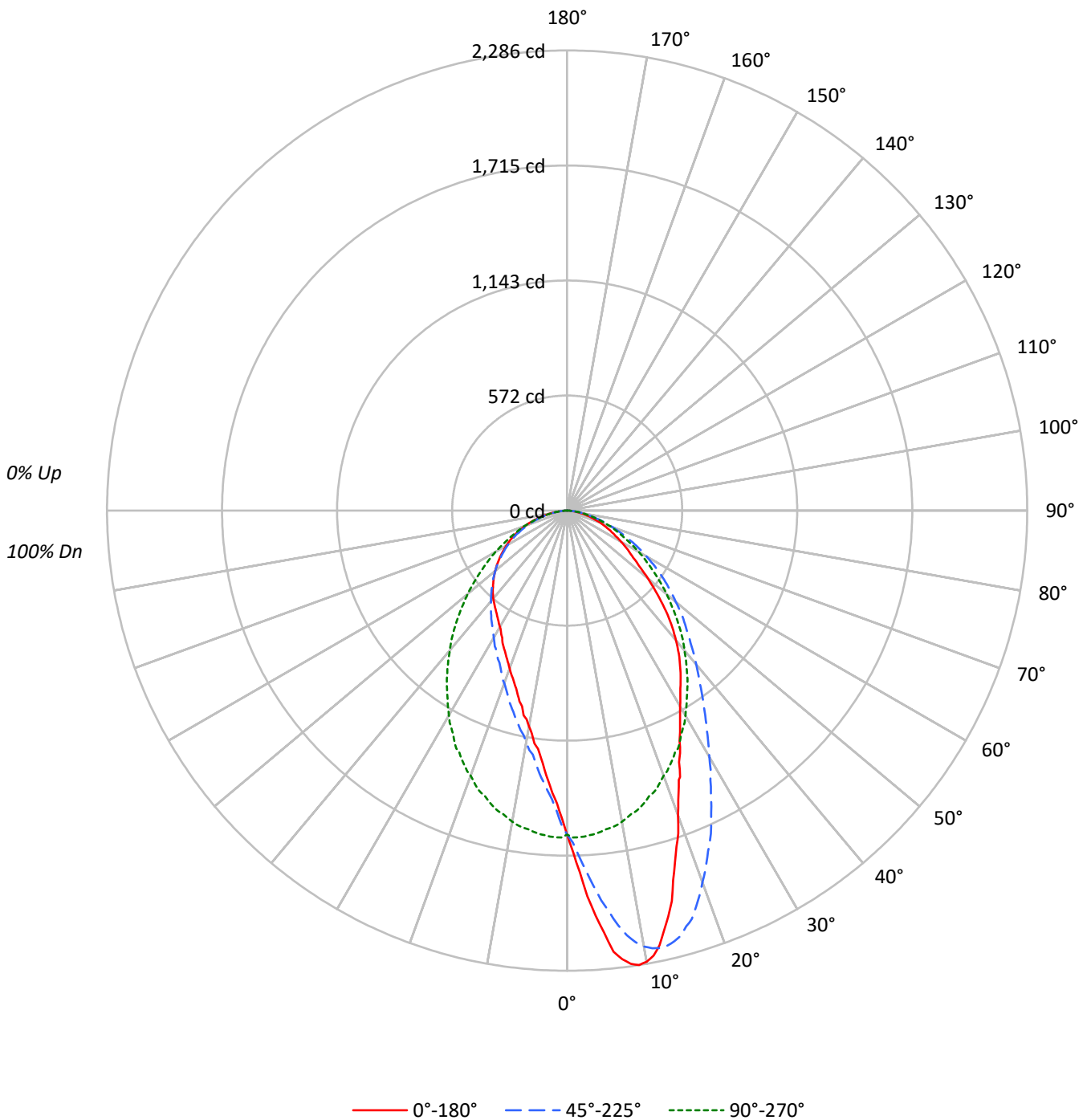
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	30944	30944	30944	30944	30944
5°	40583	37509	31105	26088	24892
10°	44421	42931	30643	22805	21249
15°	39962	43484	29811	20586	18847
20°	32975	40216	28674	18671	17088
25°	28182	35878	27666	17270	15838
30°	24925	31335	26079	16182	14833
35°	23054	27754	24457	15421	14410
40°	21100	25041	22766	14769	14325
45°	18588	22858	21053	14317	14135
50°	15648	21076	19287	13929	13962
55°	13163	19393	17426	13458	13720
60°	11867	17522	15823	13059	13440
65°	10770	15400	14090	12430	13185
70°	9700	13308	12684	11504	12499
75°	8466	11259	10843	10434	11422
80°	7106	8822	8822	9066	9553
85°	5359	6352	6594	7079	6837

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 33566 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.4	4.8
10°-20°	434.8	13.3
20°-30°	570.2	17.4
30°-40°	602.7	18.4
40°-50°	559.6	17.1
50°-60°	447.9	13.7
60°-70°	306.3	9.4
70°-80°	158.1	4.8
80°-90°	37.5	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°	1163.5	35.5
0°-40°	1766.2	53.9
0°-60°	2773.6	84.7
0°-90°	3275.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3275.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1610	1610	1610	1610	1610	
5°	2103	1944	1612	1352	1290	207
15°	2008	2185	1498	1034	947	551
25°	1329	1692	1304	814	747	612
35°	982	1183	1042	657	614	613
45°	684	841	774	527	520	525
55°	393	579	520	402	409	360
65°	237	339	310	273	290	235
75°	114	152	146	140	154	121
85°	24	29	30	32	31	29
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°	1609.9	1609.9	1609.9	1609.9	1609.9	1609.9	1609.9	1609.9	1609.9
1°	1698.4	1689.5	1650.8	1653.0	1624.2	1592.2	1562.3	1543.5	1528.0
2°	1797.9	1780.2	1719.4	1689.5	1624.2	1555.6	1493.7	1477.1	1456.1
3°	1918.5	1876.5	1792.4	1721.6	1622.0	1522.4	1437.3	1407.4	1404.1
4°	2015.9	1978.3	1866.5	1754.8	1616.5	1490.4	1394.1	1362.0	1346.5
5°	2103.3	2079.0	1944.0	1796.8	1612.1	1459.4	1352.1	1307.8	1290.1
6°	2204.0	2154.2	2006.0	1838.9	1604.3	1429.5	1314.4	1261.3	1237.0
7°	2244.9	2214.0	2075.7	1866.5	1594.4	1395.2	1266.9	1209.3	1191.6
8°	2273.7	2261.5	2131.0	1911.9	1589.9	1363.1	1224.8	1189.4	1168.4
9°	2285.9	2275.9	2170.8	1930.7	1582.2	1346.5	1203.8	1145.2	1121.9
10°	2275.9	2280.4	2199.6	1959.5	1570.0	1312.2	1168.4	1117.5	1088.7
11°	2252.7	2263.8	2215.1	1992.7	1554.5	1284.6	1136.3	1084.3	1056.6
12°	2208.4	2232.8	2221.7	2015.9	1540.2	1260.2	1114.2	1064.4	1040.0
13°	2139.8	2194.1	2217.3	2025.9	1531.3	1232.6	1086.5	1029.0	998.0
14°	2077.9	2134.3	2205.1	2048.0	1515.8	1201.6	1061.1	1003.5	977.0
15°	2008.2	2073.4	2185.2	2054.6	1498.1	1176.1	1034.5	971.4	947.1
16°	1910.8	1998.2	2148.7	2062.4	1477.1	1147.4	1010.2	950.4	918.3
17°	1830.0	1924.1	2121.0	2066.8	1466.0	1125.2	989.1	918.3	897.3
18°	1755.9	1862.1	2071.2	2063.5	1448.3	1099.8	958.2	895.1	875.2
19°	1697.3	1783.6	2021.4	2055.7	1424.0	1075.4	934.9	878.5	855.3
20°	1612.1	1711.6	1966.1	2052.4	1401.8	1053.3	912.8	855.3	835.4
21°	1541.3	1643.0	1915.2	2041.4	1386.4	1032.3	896.2	833.1	815.4
22.5°	1448.3	1537.9	1830.0	2020.3	1352.1	996.9	859.7	812.1	787.8
23°	1437.3	1513.6	1807.9	2013.7	1342.1	989.1	847.5	799.9	780.0
24°	1367.5	1448.3	1755.9	1992.7	1316.7	964.8	827.6	785.6	762.3
25°	1328.8	1395.2	1691.7	1972.8	1304.5	942.7	814.3	766.8	746.8
26°	1274.6	1351.0	1634.2	1944.0	1277.9	922.8	793.3	750.2	731.4
27°	1234.8	1298.9	1574.4	1923.0	1246.9	901.7	776.7	733.6	710.3
28°	1196.1	1258.0	1516.9	1888.7	1224.8	878.5	764.5	719.2	697.1
29°	1156.2	1210.4	1470.4	1862.1	1203.8	858.6	745.7	700.4	679.3
30°	1123.0	1172.8	1411.8	1826.7	1175.0	835.4	729.1	687.1	668.3
32.5°	1046.7	1088.7	1292.3	1742.6	1106.4	788.9	689.3	650.6	639.5
35°	982.5	1010.2	1182.8	1648.6	1042.3	739.1	657.2	619.6	614.1
37.5°	915.0	941.6	1083.2	1550.1	974.8	693.7	620.7	596.4	591.9
40°	840.9	876.3	998.0	1452.7	907.3	649.5	588.6	569.8	570.9
42.5°	766.8	807.7	915.0	1338.8	844.2	607.4	557.6	544.4	546.6
45°	683.8	735.8	840.9	1234.8	774.5	567.6	526.7	520.0	520.0
47.5°	597.5	663.9	776.7	1127.5	708.1	527.8	496.8	492.4	494.6
50°	523.3	583.1	704.8	1023.4	645.0	491.3	465.8	464.7	466.9
52.5°	450.3	510.1	641.7	926.1	580.9	458.1	435.9	435.9	438.1
55°	392.8	439.3	578.7	824.3	520.0	419.3	401.6	405.0	409.4
57.5°	353.0	383.9	516.7	726.9	463.6	381.7	370.7	372.9	378.4
60°	308.7	333.0	455.8	637.3	411.6	345.2	339.7	344.1	349.6
62.5°	268.9	289.9	398.3	556.5	355.2	309.8	307.6	314.2	319.8
65°	236.8	251.2	338.6	474.7	309.8	274.4	273.3	283.2	289.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	203.6	214.6	286.6	397.2	264.4	239.0	239.0	250.1	255.6
70°	172.6	181.5	236.8	327.5	225.7	203.6	204.7	218.0	222.4
72.5°	140.5	148.3	192.5	263.3	182.6	170.4	173.7	184.8	189.2
75°	114.0	119.5	151.6	208.0	146.0	136.1	140.5	150.5	153.8
77.5°	87.4	91.8	111.7	152.7	111.7	106.2	110.6	119.5	119.5
80°	64.2	65.3	79.7	107.3	79.7	76.3	81.9	86.3	86.3
82.5°	42.0	44.3	52.0	68.6	53.1	52.0	54.2	57.5	57.5
85°	24.3	25.4	28.8	37.6	29.9	29.9	32.1	32.1	31.0
87.5°	10.0	11.1	12.2	14.4	13.3	14.4	14.4	12.2	13.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)