

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: P735874

Luminaire Tested: S122DR-S485D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735874  
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-S485D850-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2370.8 lumens  
Efficiency: N/A  
Efficacy: 121.0 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

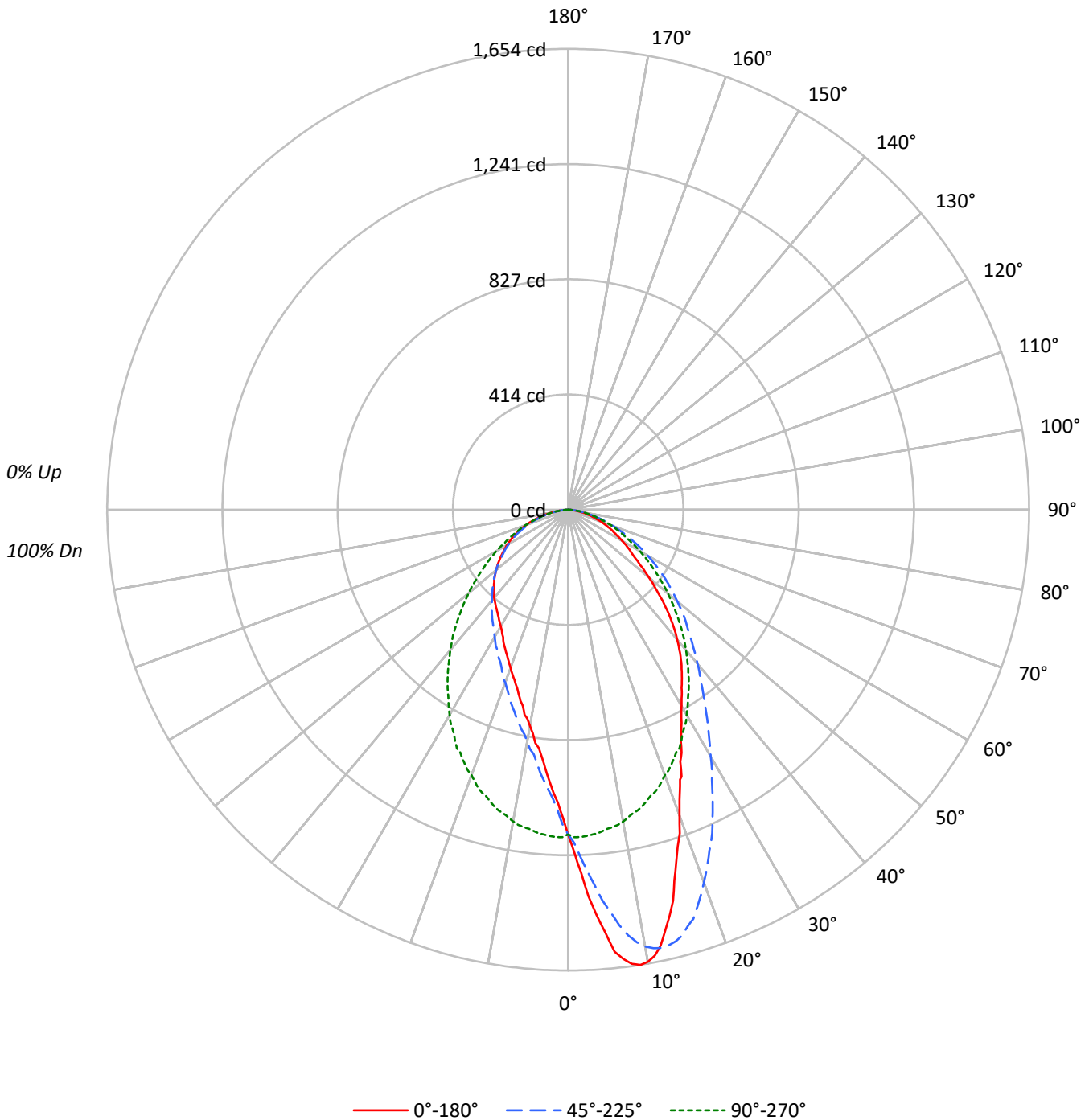
Input Watts (W): 19.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76					74				
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66					64				
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58					56				
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51					49				
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46					44				
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41					39				
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37					35				
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	22397	22397	22397	22397	22397
5°	29374	27150	22513	18882	18017
10°	32152	31074	22180	16506	15380
15°	28924	31475	21577	14901	13641
20°	23867	29109	20756	13515	12367
25°	20398	25970	20025	12500	11465
30°	18042	22681	18877	11714	10736
35°	16686	20088	17702	11162	10430
40°	15271	18126	16478	10689	10368
45°	13453	16544	15239	10362	10232
50°	11327	15254	13962	10083	10107
55°	9527	14035	12614	9742	9929
60°	8588	12682	11452	9453	9730
65°	7796	11147	10197	8996	9542
70°	7019	9633	9183	8329	9048
75°	6127	8147	7850	7553	8266
80°	5136	6387	6387	6564	6918
85°	3881	4587	4764	5117	4940

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 24293 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.7	4.8
10°-20°	314.7	13.3
20°-30°	412.7	17.4
30°-40°	436.2	18.4
40°-50°	405.0	17.1
50°-60°	324.2	13.7
60°-70°	221.7	9.4
70°-80°	114.4	4.8
80°-90°	27.2	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°	842.1	35.5
0°-40°	1278.4	53.9
0°-60°	2007.5	84.7
0°-90°	2370.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2370.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1165	1165	1165	1165	1165	
5°	1522	1407	1167	979	934	150
15°	1454	1582	1084	749	686	399
25°	962	1224	944	589	541	443
35°	711	856	754	476	444	444
45°	495	609	561	381	376	380
55°	284	419	376	291	296	260
65°	171	245	224	198	210	170
75°	82	110	106	102	111	88
85°	18	21	22	23	22	21
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°	1165.2	1165.2	1165.2	1165.2	1165.2	1165.2	1165.2	1165.2	1165.2
1°	1229.3	1222.9	1194.9	1196.5	1175.6	1152.4	1130.8	1117.2	1106.0
2°	1301.4	1288.6	1244.5	1222.9	1175.6	1126.0	1081.1	1069.1	1053.9
3°	1388.7	1358.2	1297.4	1246.1	1174.0	1102.0	1040.3	1018.7	1016.3
4°	1459.1	1431.9	1351.0	1270.1	1170.0	1078.7	1009.1	985.8	974.6
5°	1522.4	1504.8	1407.1	1300.6	1166.8	1056.3	978.6	946.6	933.8
6°	1595.3	1559.2	1451.9	1331.0	1161.2	1034.7	951.4	913.0	895.3
7°	1624.9	1602.5	1502.4	1351.0	1154.0	1009.9	917.0	875.3	862.5
8°	1645.7	1636.9	1542.4	1383.9	1150.8	986.6	886.5	860.9	845.7
9°	1654.5	1647.3	1571.3	1397.5	1145.2	974.6	871.3	828.9	812.1
10°	1647.3	1650.5	1592.1	1418.3	1136.4	949.8	845.7	808.9	788.0
11°	1630.5	1638.5	1603.3	1442.3	1125.2	929.8	822.5	784.8	764.8
12°	1598.5	1616.1	1608.1	1459.1	1114.8	912.2	806.5	770.4	752.8
13°	1548.8	1588.1	1604.9	1466.3	1108.4	892.1	786.4	744.8	722.4
14°	1504.0	1544.8	1596.1	1482.4	1097.2	869.7	768.0	726.4	707.1
15°	1453.5	1500.8	1581.7	1487.2	1084.3	851.3	748.8	703.1	685.5
16°	1383.1	1446.3	1555.2	1492.8	1069.1	830.5	731.2	687.9	664.7
17°	1324.6	1392.7	1535.2	1496.0	1061.1	814.5	716.0	664.7	649.5
18°	1270.9	1347.8	1499.2	1493.6	1048.3	796.0	693.5	647.9	633.5
19°	1228.5	1291.0	1463.1	1488.0	1030.7	778.4	676.7	635.9	619.1
20°	1166.8	1238.9	1423.1	1485.6	1014.7	762.4	660.7	619.1	604.6
21°	1115.6	1189.3	1386.3	1477.6	1003.5	747.2	648.7	603.0	590.2
22.5°	1048.3	1113.2	1324.6	1462.3	978.6	721.6	622.3	587.8	570.2
23°	1040.3	1095.6	1308.6	1457.5	971.4	716.0	613.4	579.0	564.6
24°	989.8	1048.3	1270.9	1442.3	953.0	698.3	599.0	568.6	551.8
25°	961.8	1009.9	1224.5	1427.9	944.2	682.3	589.4	555.0	540.6
26°	922.6	977.8	1182.8	1407.1	925.0	667.9	574.2	543.0	529.4
27°	893.7	940.2	1139.6	1391.9	902.6	652.7	562.2	531.0	514.1
28°	865.7	910.6	1098.0	1367.0	886.5	635.9	553.4	520.5	504.5
29°	836.9	876.1	1064.3	1347.8	871.3	621.5	539.8	506.9	491.7
30°	812.9	848.9	1021.9	1322.2	850.5	604.6	527.8	497.3	483.7
32.5°	757.6	788.0	935.4	1261.3	800.8	571.0	498.9	470.9	462.9
35°	711.1	731.2	856.1	1193.3	754.4	535.0	475.7	448.5	444.5
37.5°	662.3	681.5	784.0	1122.0	705.5	502.1	449.3	431.7	428.5
40°	608.6	634.3	722.4	1051.5	656.7	470.1	426.0	412.4	413.2
42.5°	555.0	584.6	662.3	969.0	611.0	439.7	403.6	394.0	395.6
45°	494.9	532.6	608.6	893.7	560.6	410.8	381.2	376.4	376.4
47.5°	432.5	480.5	562.2	816.1	512.5	382.0	359.6	356.4	358.0
50°	378.8	422.0	510.1	740.8	466.9	355.6	337.2	336.4	338.0
52.5°	325.9	369.2	464.5	670.3	420.4	331.5	315.5	315.5	317.1
55°	284.3	317.9	418.8	596.6	376.4	303.5	290.7	293.1	296.3
57.5°	255.5	277.9	374.0	526.2	335.6	276.3	268.3	269.9	273.9
60°	223.4	241.1	329.9	461.3	297.9	249.9	245.9	249.1	253.1
62.5°	194.6	209.8	288.3	402.8	257.1	224.2	222.6	227.4	231.4
65°	171.4	181.8	245.1	343.6	224.2	198.6	197.8	205.0	209.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	147.4	155.4	207.4	287.5	191.4	173.0	173.0	181.0	185.0
70°	124.9	131.3	171.4	237.0	163.4	147.4	148.2	157.8	161.0
72.5°	101.7	107.3	139.3	190.6	132.1	123.3	125.7	133.7	136.9
75°	82.5	86.5	109.7	150.6	105.7	98.5	101.7	108.9	111.3
77.5°	63.3	66.5	80.9	110.5	80.9	76.9	80.1	86.5	86.5
80°	46.4	47.2	57.7	77.7	57.7	55.3	59.3	62.5	62.5
82.5°	30.4	32.0	37.6	49.7	38.4	37.6	39.2	41.6	41.6
85°	17.6	18.4	20.8	27.2	21.6	21.6	23.2	23.2	22.4
87.5°	7.2	8.0	8.8	10.4	9.6	10.4	10.4	8.8	9.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)