

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: P735874

Luminaire Tested: S122DRP-S485D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
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: S122DRP-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**

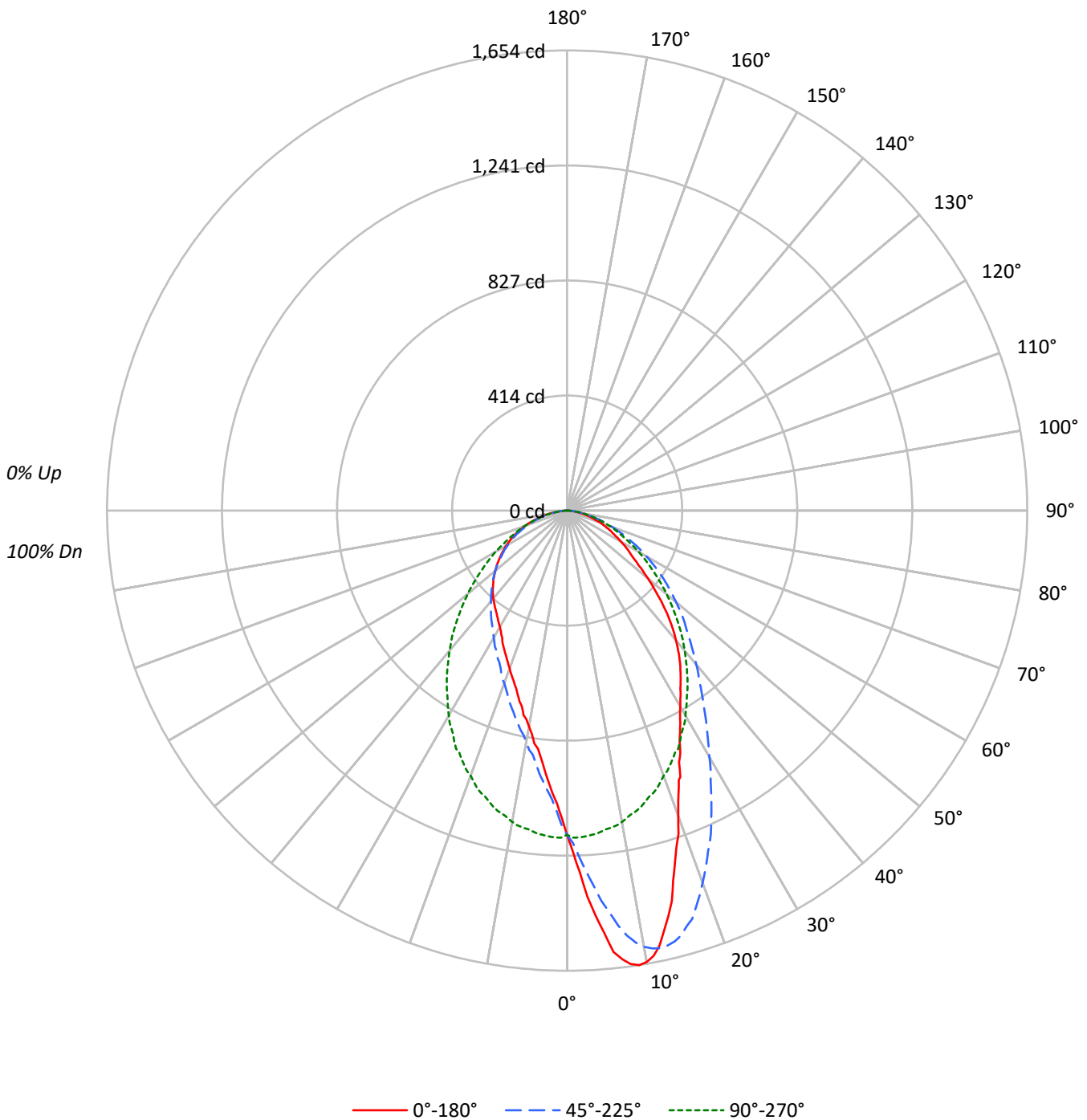
Lumens per Lamp: N/A  
Luminaire Lumens: 2370.8 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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					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°	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



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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	20.02	21.54	20.39	21.86	22.17	19.60	21.12	19.96	21.43	21.75
	3H	21.22	22.59	21.60	22.92	23.28	21.11	22.48	21.49	22.80	23.17
	4H	21.62	22.90	22.02	23.25	23.63	21.64	22.92	22.04	23.27	23.65
	6H	21.87	23.06	22.28	23.42	23.82	21.99	23.17	22.40	23.54	23.93
	8H	21.93	23.06	22.36	23.45	23.85	22.09	23.21	22.51	23.60	24.00
	12H	21.97	23.05	22.40	23.43	23.86	22.14	23.22	22.57	23.60	24.03
4H	2H	21.08	22.36	21.48	22.71	23.09	20.67	21.95	21.07	22.30	22.68
	3H	22.44	23.50	22.85	23.90	24.31	22.29	23.36	22.70	23.76	24.16
	4H	22.90	23.86	23.33	24.28	24.71	22.87	23.83	23.31	24.25	24.69
	6H	23.21	24.05	23.67	24.49	24.95	23.30	24.13	23.75	24.57	25.03
	8H	23.29	24.07	23.76	24.52	24.98	23.41	24.19	23.88	24.64	25.10
	12H	23.34	24.04	23.82	24.51	24.99	23.49	24.18	23.97	24.66	25.13
8H	4H	23.26	24.04	23.72	24.48	24.95	23.22	23.99	23.68	24.44	24.91
	6H	23.66	24.30	24.16	24.79	25.27	23.74	24.38	24.23	24.87	25.35
	8H	23.78	24.36	24.29	24.87	25.35	23.90	24.48	24.42	24.99	25.48
	12H	23.87	24.38	24.38	24.87	25.43	24.02	24.53	24.53	25.03	25.59
12H	4H	23.28	23.98	23.76	24.45	24.93	23.23	23.93	23.71	24.41	24.88
	6H	23.70	24.28	24.22	24.79	25.28	23.78	24.35	24.29	24.86	25.35
	8H	23.87	24.38	24.38	24.87	25.44	23.99	24.50	24.50	25.00	25.56