

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: P735917

Luminaire Tested: S122RDRP-S485D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735917  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-S485D835-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

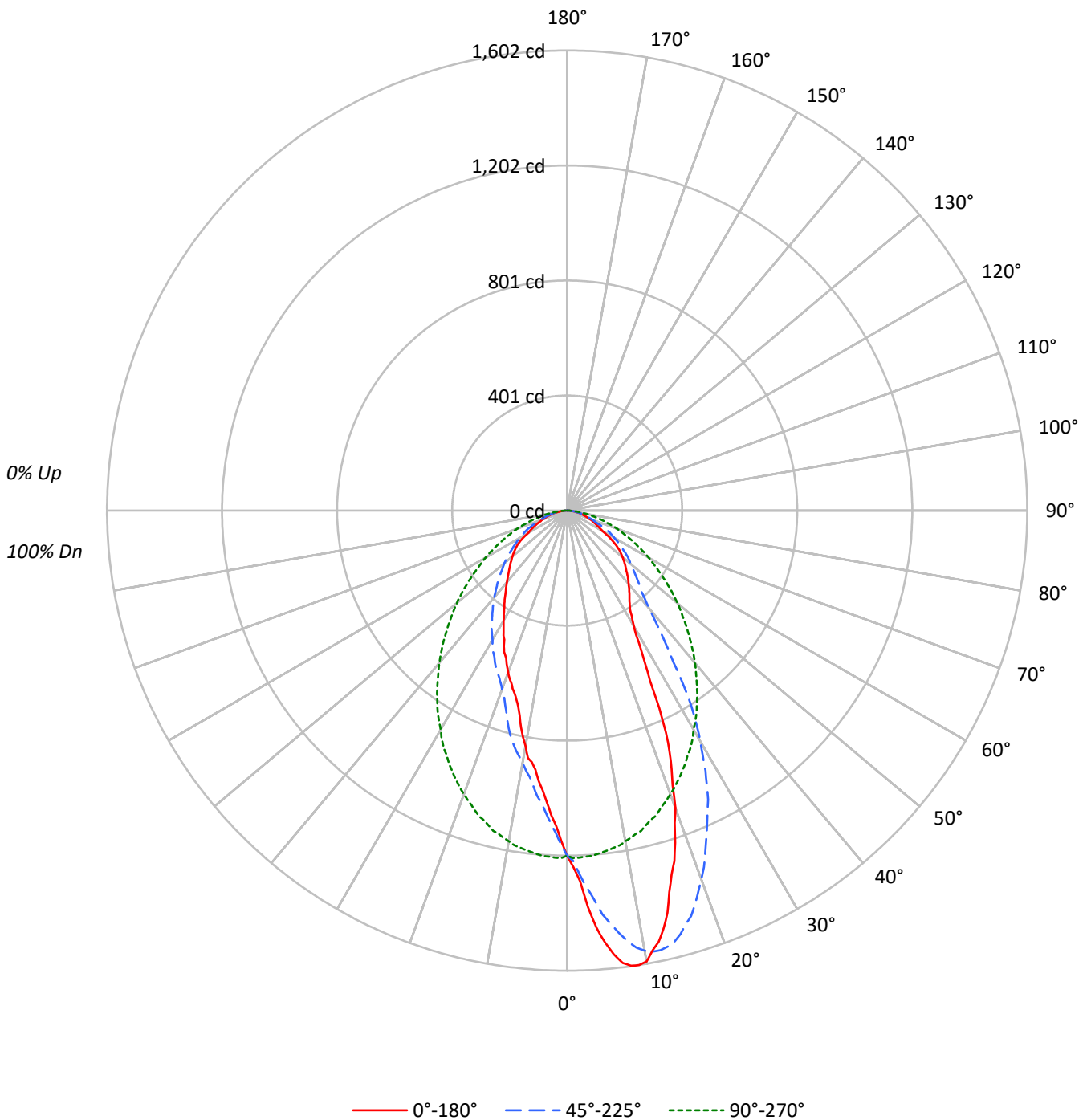
Lumens per Lamp: N/A  
Luminaire Lumens: 2057.7 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75				
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66				
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58				
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52				
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46				
7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42				
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38				
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35				
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				

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

	0°	45°	90°	135°	180°
0°	23083	23083	23083	23083	23083
5°	29121	27240	23171	19688	18851
10°	31106	30374	22818	17422	16280
15°	27360	30364	22216	15621	13565
20°	22556	27947	21506	13560	12275
25°	16080	24536	20644	12557	11043
30°	10290	20579	19538	11524	9808
35°	8863	15165	18521	10693	8896
40°	8353	11088	17376	9894	8172
45°	7891	9500	16155	9166	7715
50°	7515	8660	15008	8528	7428
55°	6897	8009	13720	7842	7165
60°	5440	7300	12601	7358	6051
65°	4926	6536	11429	6831	5517
70°	4547	5277	10391	5884	5075
75°	4233	4775	9060	5258	4775
80°	3918	4317	7671	4715	4317
85°	3507	3815	5888	4146	3815

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 22614 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.5	5.7
10°-20°	313.0	15.2
20°-30°	392.6	19.1
30°-40°	374.0	18.2
40°-50°	330.0	16.0
50°-60°	259.6	12.6
60°-70°	165.6	8.0
70°-80°	84.2	4.1
80°-90°	22.3	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°	822.0	39.9
0°-40°	1196.0	58.1
0°-60°	1785.6	86.8
0°-90°	2057.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2057.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1201	1201	1201	1201	1201	
5°	1509	1412	1201	1020	977	147
15°	1375	1526	1116	785	682	381
25°	758	1157	973	592	521	342
35°	378	646	789	456	379	240
45°	290	350	594	337	284	225
55°	206	239	409	234	214	181
65°	108	144	251	150	121	108
75°	57	64	122	71	64	61
85°	16	17	27	19	17	18
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°	1200.9	1200.9	1200.9	1200.9	1200.9	1200.9	1200.9	1200.9	1200.9
1°	1241.3	1247.1	1220.4	1223.3	1210.3	1187.2	1164.8	1167.0	1151.1
2°	1291.2	1306.3	1269.5	1247.1	1209.6	1169.1	1124.4	1118.6	1099.1
3°	1381.4	1374.2	1313.6	1268.1	1206.7	1146.0	1089.7	1076.7	1060.1
4°	1454.4	1432.7	1358.3	1294.8	1205.2	1119.3	1055.8	1033.4	1016.8
5°	1509.3	1481.8	1411.8	1315.0	1200.9	1104.1	1020.4	995.1	977.0
6°	1553.3	1532.4	1446.4	1333.8	1195.1	1081.8	999.4	965.5	946.7
7°	1587.2	1569.9	1481.8	1359.1	1190.1	1059.4	966.2	930.8	908.4
8°	1600.2	1592.3	1514.3	1377.1	1184.3	1043.5	936.6	904.8	884.6
9°	1602.4	1603.1	1540.3	1394.4	1179.2	1014.6	915.7	883.2	872.3
10°	1593.7	1600.2	1556.2	1413.9	1169.1	1000.2	892.6	861.5	834.1
11°	1559.8	1588.7	1564.1	1426.9	1160.5	977.0	872.3	831.9	804.5
12°	1534.5	1562.0	1564.9	1443.5	1150.4	966.2	855.0	800.8	772.0
13°	1492.6	1521.5	1557.6	1447.9	1144.6	939.5	833.3	769.1	733.7
14°	1442.8	1489.0	1546.1	1457.3	1130.1	916.4	811.7	724.3	703.4
15°	1374.9	1440.7	1525.9	1460.9	1116.4	900.5	785.0	701.9	681.7
16°	1318.6	1393.0	1498.4	1460.9	1107.8	878.8	756.1	682.4	662.2
17°	1276.0	1336.7	1476.0	1461.6	1093.3	863.7	727.2	664.4	648.5
18°	1216.1	1284.0	1440.7	1458.7	1078.1	845.6	702.6	649.2	629.7
19°	1149.6	1230.5	1403.1	1453.7	1065.1	826.8	676.6	633.3	616.7
20°	1102.7	1177.1	1366.3	1445.7	1051.4	814.6	662.9	615.3	600.1
21°	1024.0	1115.0	1329.4	1434.9	1037.0	793.6	644.1	599.4	582.8
22.5°	943.8	1027.6	1261.6	1416.8	1013.2	767.6	623.2	579.9	555.3
23°	912.8	1006.7	1240.6	1411.8	1005.2	761.1	616.7	571.2	549.5
24°	846.3	943.8	1197.3	1395.9	987.9	739.5	604.4	553.9	538.7
25°	758.2	890.4	1156.9	1379.3	973.4	723.6	592.1	540.2	520.7
26°	658.6	817.5	1120.0	1359.1	953.2	701.9	575.5	527.2	499.7
27°	597.2	754.6	1070.2	1337.4	938.8	686.0	561.8	507.7	488.2
28°	548.1	655.7	1025.4	1316.4	921.4	666.5	552.4	493.9	470.8
29°	494.7	601.5	972.7	1288.3	902.7	644.1	537.3	480.2	455.7
30°	463.6	543.8	927.2	1267.3	880.3	629.0	519.2	466.5	441.9
32.5°	407.3	448.4	803.7	1207.4	837.7	585.7	489.6	428.9	408.0
35°	377.7	399.3	646.3	1137.4	789.3	549.5	455.7	397.9	379.1
37.5°	355.3	368.3	533.7	1062.3	740.2	517.8	424.6	369.0	351.0
40°	332.9	343.0	441.9	990.0	692.5	486.7	394.3	339.4	325.7
42.5°	312.7	320.6	383.5	918.6	643.4	454.9	364.7	316.3	304.0
45°	290.3	297.5	349.5	831.9	594.3	422.4	337.2	291.0	283.8
47.5°	271.5	276.6	317.0	754.6	545.9	391.4	309.1	270.8	265.7
50°	251.3	257.8	289.6	668.7	501.9	361.1	285.2	252.7	248.4
52.5°	231.8	234.7	266.5	582.8	455.7	331.5	260.0	234.7	231.8
55°	205.8	217.4	239.0	494.7	409.4	304.0	234.0	215.9	213.8
57.5°	176.2	191.4	214.5	415.2	366.1	273.7	213.0	198.6	189.2
60°	141.5	159.6	189.9	345.2	327.8	246.2	191.4	169.0	157.4
62.5°	124.2	130.0	167.5	288.9	288.9	220.3	169.7	145.1	140.1
65°	108.3	112.7	143.7	239.0	251.3	191.4	150.2	125.7	121.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	94.6	98.2	109.8	199.3	216.6	166.8	124.2	109.8	104.7
70°	80.9	83.8	93.9	162.5	184.9	142.3	104.7	93.9	90.3
72.5°	68.6	71.5	77.3	122.0	151.6	118.4	88.1	80.2	77.3
75°	57.0	58.5	64.3	91.0	122.0	94.6	70.8	65.7	64.3
77.5°	46.2	46.9	50.5	65.0	94.6	72.2	57.0	52.7	52.0
80°	35.4	36.1	39.0	46.9	69.3	52.0	42.6	40.4	39.0
82.5°	25.3	26.0	27.4	31.8	46.9	35.4	30.3	29.6	27.4
85°	15.9	15.9	17.3	19.5	26.7	20.2	18.8	18.1	17.3
87.5°	7.2	7.2	7.9	7.9	12.3	8.7	8.7	7.9	7.2
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	17.34	18.81	17.71	19.12	19.44	20.04	21.50	20.40	21.82	22.13
	3H	18.46	19.77	18.84	20.10	20.46	21.48	22.79	21.86	23.12	23.48
	4H	18.90	20.13	19.30	20.48	20.86	21.98	23.21	22.38	23.56	23.94
	6H	19.24	20.38	19.66	20.75	21.14	22.31	23.44	22.72	23.81	24.20
	8H	19.36	20.44	19.79	20.83	21.23	22.40	23.48	22.82	23.87	24.27
	12H	19.43	20.47	19.86	20.85	21.28	22.44	23.48	22.87	23.86	24.29
4H	2H	18.51	19.74	18.91	20.09	20.47	20.49	21.72	20.89	22.07	22.45
	3H	19.74	20.76	20.15	21.16	21.56	22.15	23.17	22.56	23.57	23.97
	4H	20.22	21.13	20.65	21.55	21.99	22.79	23.70	23.22	24.12	24.56
	6H	20.62	21.42	21.08	21.86	22.32	23.24	24.04	23.70	24.48	24.94
	8H	20.75	21.50	21.22	21.94	22.41	23.37	24.11	23.83	24.56	25.02
	12H	20.85	21.52	21.34	22.00	22.47	23.45	24.11	23.93	24.59	25.06
8H	4H	20.62	21.36	21.08	21.81	22.28	22.90	23.64	23.36	24.09	24.55
	6H	21.11	21.72	21.61	22.22	22.69	23.46	24.07	23.96	24.56	25.04
	8H	21.30	21.85	21.82	22.36	22.85	23.66	24.21	24.17	24.72	25.21
	12H	21.46	21.94	21.97	22.44	23.00	23.81	24.29	24.32	24.78	25.35
12H	4H	20.67	21.33	21.15	21.81	22.28	22.89	23.55	23.37	24.03	24.50
	6H	21.18	21.73	21.70	22.24	22.73	23.46	24.01	23.97	24.52	25.01
	8H	21.42	21.91	21.93	22.40	22.97	23.70	24.19	24.21	24.68	25.25