

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: P735877

Luminaire Tested: S122DRP-S485D935-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735877  
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-S485D935-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

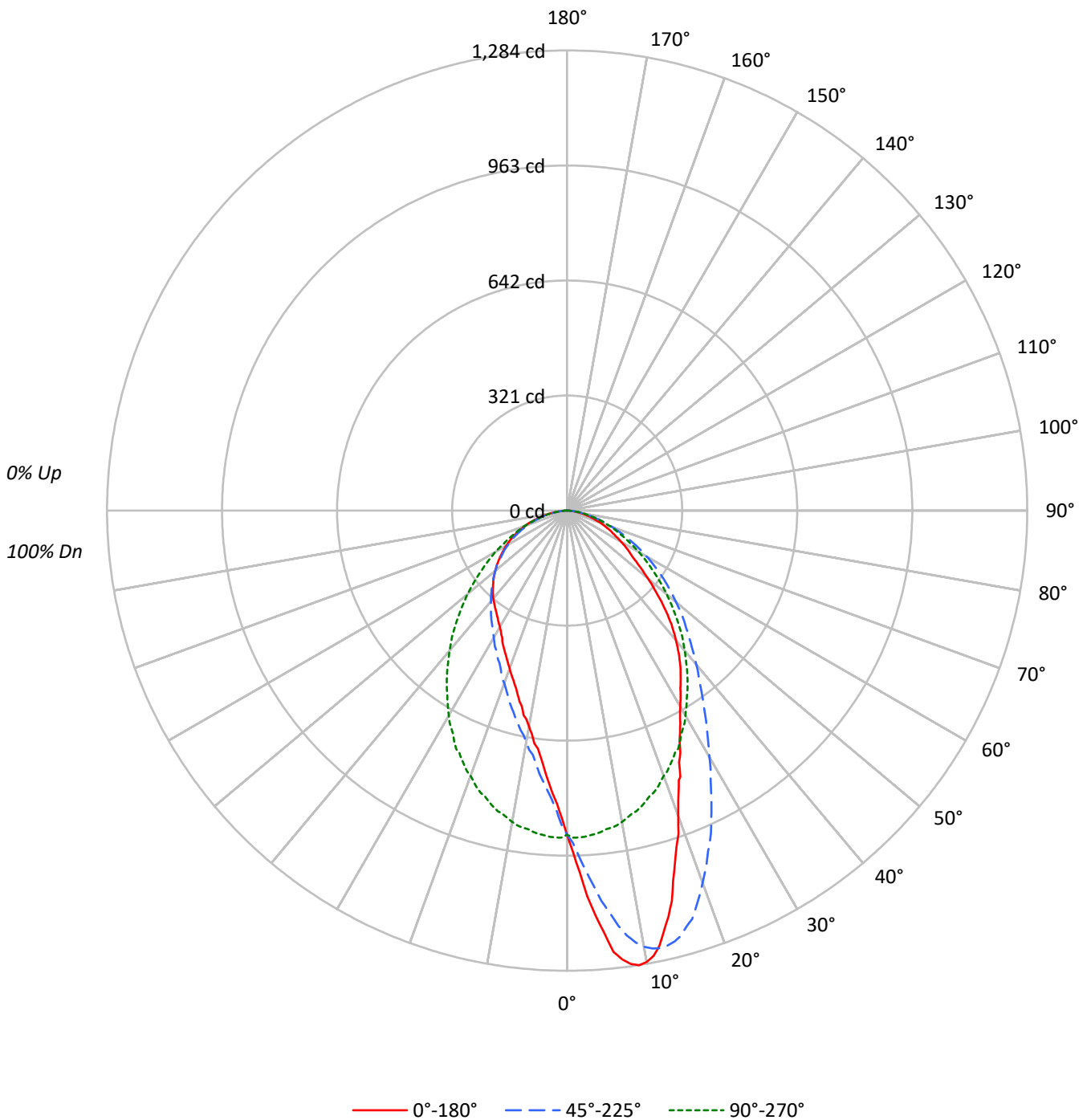
Lumens per Lamp: N/A  
Luminaire Lumens: 1840.7 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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°	17389	17389	17389	17389	17389
5°	22806	21078	17479	14660	13989
10°	24961	24124	17221	12815	11941
15°	22456	24436	16753	11567	10590
20°	18530	22601	16114	10491	9602
25°	15836	20163	15546	9705	8901
30°	14007	17609	14655	9093	8334
35°	12955	15597	13743	8666	8098
40°	11856	14071	12792	8300	8049
45°	10444	12844	11830	8046	7943
50°	8794	11845	10840	7829	7847
55°	7396	10898	9792	7563	7708
60°	6670	9849	8892	7339	7554
65°	6054	8655	7918	6986	7409
70°	5451	7480	7126	6463	7025
75°	4753	6327	6097	5867	6417
80°	3996	4959	4959	5092	5369
85°	3021	3573	3705	3970	3837

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 18862 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.0	4.8
10°-20°	244.3	13.3
20°-30°	320.4	17.4
30°-40°	338.7	18.4
40°-50°	314.5	17.1
50°-60°	251.7	13.7
60°-70°	172.1	9.4
70°-80°	88.8	4.8
80°-90°	21.1	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°	653.8	35.5
0°-40°	992.5	53.9
0°-60°	1558.6	84.7
0°-90°	1840.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1840.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	905	905	905	905	905	
5°	1182	1092	906	760	725	116
15°	1128	1228	842	581	532	310
25°	747	951	733	458	420	344
35°	552	665	586	369	345	345
45°	384	472	435	296	292	295
55°	221	325	292	226	230	202
65°	133	190	174	154	163	132
75°	64	85	82	79	86	68
85°	14	16	17	18	17	17
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°	904.7	904.7	904.7	904.7	904.7	904.7	904.7	904.7	904.7
1°	954.4	949.4	927.7	928.9	912.7	894.7	877.9	867.3	858.6
2°	1010.4	1000.4	966.2	949.4	912.7	874.2	839.4	830.0	818.2
3°	1078.1	1054.5	1007.2	967.4	911.5	855.5	807.7	790.9	789.0
4°	1132.8	1111.7	1048.9	986.1	908.4	837.5	783.4	765.4	756.7
5°	1182.0	1168.3	1092.4	1009.7	905.9	820.1	759.8	734.9	725.0
6°	1238.5	1210.6	1127.2	1033.4	901.5	803.3	738.6	708.8	695.1
7°	1261.5	1244.1	1166.4	1048.9	895.9	784.0	711.9	679.6	669.6
8°	1277.7	1270.9	1197.5	1074.4	893.5	766.0	688.3	668.4	656.6
9°	1284.5	1278.9	1219.9	1085.0	889.1	756.7	676.5	643.5	630.5
10°	1278.9	1281.4	1236.0	1101.1	882.3	737.4	656.6	628.0	611.8
11°	1265.9	1272.1	1244.8	1119.8	873.6	721.9	638.5	609.3	593.8
12°	1241.0	1254.7	1248.5	1132.8	865.5	708.2	626.1	598.1	584.4
13°	1202.5	1232.9	1246.0	1138.4	860.5	692.6	610.6	578.2	560.8
14°	1167.7	1199.4	1239.2	1150.9	851.8	675.2	596.3	563.9	549.0
15°	1128.5	1165.2	1228.0	1154.6	841.9	660.9	581.3	545.9	532.2
16°	1073.8	1122.9	1207.4	1158.9	830.0	644.8	567.7	534.1	516.1
17°	1028.4	1081.2	1191.9	1161.4	823.8	632.3	555.8	516.1	504.2
18°	986.7	1046.4	1163.9	1159.6	813.9	618.0	538.4	503.0	491.8
19°	953.8	1002.3	1135.9	1155.2	800.2	604.3	525.4	493.7	480.6
20°	905.9	961.9	1104.9	1153.4	787.8	591.9	512.9	480.6	469.4
21°	866.1	923.3	1076.3	1147.1	779.1	580.1	503.6	468.2	458.2
22.5°	813.9	864.2	1028.4	1135.3	759.8	560.2	483.1	456.4	442.7
23°	807.7	850.6	1015.9	1131.6	754.2	555.8	476.3	449.5	438.3
24°	768.5	813.9	986.7	1119.8	739.9	542.2	465.1	441.4	428.4
25°	746.7	784.0	950.7	1108.6	733.0	529.7	457.6	430.9	419.7
26°	716.3	759.2	918.3	1092.4	718.1	518.5	445.8	421.5	411.0
27°	693.9	729.9	884.8	1080.6	700.7	506.7	436.5	412.2	399.2
28°	672.1	706.9	852.4	1061.3	688.3	493.7	429.6	404.1	391.7
29°	649.7	680.2	826.3	1046.4	676.5	482.5	419.1	393.6	381.8
30°	631.1	659.1	793.4	1026.5	660.3	469.4	409.7	386.1	375.5
32.5°	588.2	611.8	726.2	979.3	621.8	443.3	387.4	365.6	359.4
35°	552.1	567.7	664.7	926.4	585.7	415.3	369.3	348.2	345.1
37.5°	514.2	529.1	608.7	871.1	547.8	389.8	348.8	335.1	332.6
40°	472.5	492.4	560.8	816.4	509.8	365.0	330.8	320.2	320.8
42.5°	430.9	453.9	514.2	752.3	474.4	341.3	313.4	305.9	307.1
45°	384.2	413.5	472.5	693.9	435.2	319.0	296.0	292.2	292.2
47.5°	335.7	373.1	436.5	633.6	397.9	296.6	279.2	276.7	277.9
50°	294.1	327.7	396.1	575.1	362.5	276.1	261.8	261.1	262.4
52.5°	253.1	286.6	360.6	520.4	326.4	257.4	245.0	245.0	246.2
55°	220.7	246.8	325.2	463.2	292.2	235.6	225.7	227.6	230.0
57.5°	198.3	215.7	290.4	408.5	260.5	214.5	208.3	209.5	212.6
60°	173.5	187.1	256.2	358.1	231.3	194.0	190.9	193.4	196.5
62.5°	151.1	162.9	223.8	312.7	199.6	174.1	172.8	176.6	179.7
65°	133.1	141.1	190.3	266.7	174.1	154.2	153.6	159.2	162.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	114.4	120.6	161.0	223.2	148.6	134.3	134.3	140.5	143.6
70°	97.0	102.0	133.1	184.0	126.8	114.4	115.0	122.5	125.0
72.5°	79.0	83.3	108.2	148.0	102.6	95.8	97.6	103.8	106.3
75°	64.0	67.1	85.2	116.9	82.1	76.5	79.0	84.6	86.4
77.5°	49.1	51.6	62.8	85.8	62.8	59.7	62.2	67.1	67.1
80°	36.1	36.7	44.8	60.3	44.8	42.9	46.0	48.5	48.5
82.5°	23.6	24.9	29.2	38.5	29.8	29.2	30.5	32.3	32.3
85°	13.7	14.3	16.2	21.1	16.8	16.8	18.0	18.0	17.4
87.5°	5.6	6.2	6.8	8.1	7.5	8.1	8.1	6.8	7.5
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	19.14	20.66	19.51	20.98	21.29	18.72	20.24	19.08	20.55	20.87
	3H	20.34	21.71	20.72	22.04	22.40	20.23	21.60	20.61	21.92	22.29
	4H	20.74	22.02	21.14	22.37	22.75	20.76	22.04	21.16	22.39	22.77
	6H	20.99	22.18	21.40	22.54	22.94	21.11	22.29	21.52	22.66	23.05
	8H	21.06	22.18	21.48	22.57	22.97	21.21	22.33	21.63	22.72	23.12
	12H	21.09	22.17	21.52	22.55	22.98	21.26	22.34	21.69	22.72	23.15
4H	2H	20.20	21.48	20.60	21.83	22.21	19.79	21.07	20.19	21.42	21.80
	3H	21.56	22.62	21.97	23.02	23.43	21.41	22.48	21.82	22.88	23.28
	4H	22.02	22.98	22.45	23.40	23.83	21.99	22.95	22.43	23.37	23.81
	6H	22.33	23.17	22.79	23.61	24.07	22.42	23.25	22.87	23.69	24.15
	8H	22.41	23.19	22.88	23.64	24.10	22.53	23.31	23.00	23.76	24.22
	12H	22.46	23.16	22.94	23.63	24.11	22.61	23.30	23.09	23.78	24.25
8H	4H	22.38	23.16	22.84	23.60	24.07	22.34	23.12	22.80	23.56	24.03
	6H	22.78	23.42	23.28	23.91	24.39	22.86	23.50	23.35	23.99	24.47
	8H	22.90	23.48	23.41	23.99	24.48	23.02	23.60	23.54	24.11	24.60
	12H	22.99	23.50	23.50	23.99	24.55	23.15	23.65	23.66	24.15	24.71
12H	4H	22.40	23.10	22.88	23.57	24.05	22.35	23.05	22.83	23.53	24.00
	6H	22.82	23.40	23.34	23.91	24.40	22.90	23.47	23.41	23.98	24.47
	8H	22.99	23.50	23.50	24.00	24.56	23.11	23.62	23.62	24.12	24.68