

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: P735872

Luminaire Tested: S122DRP-S485D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735872  
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-S485D835-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

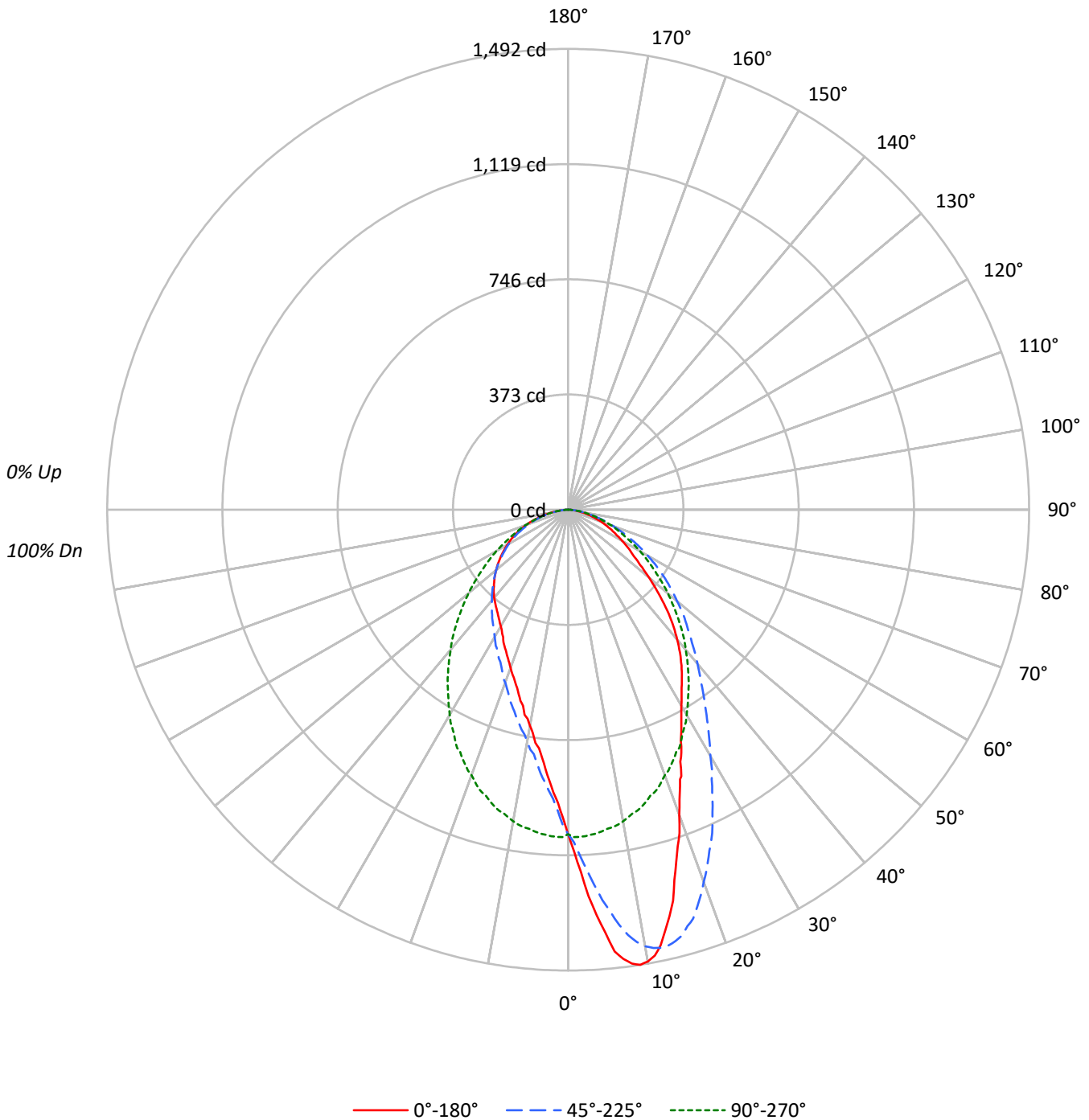
Lumens per Lamp: N/A  
Luminaire Lumens: 2137.8 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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	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°	20196	20196	20196	20196	20196
5°	26488	24481	20300	17026	16246
10°	28992	28020	20000	14884	13869
15°	26082	28380	19458	13436	12300
20°	21521	26248	18714	12187	11152
25°	18394	23416	18057	11272	10337
30°	16269	20450	17021	10563	9681
35°	15048	18115	15961	10064	9405
40°	13770	16345	14857	9640	9349
45°	12132	14918	13741	9343	9226
50°	10215	13755	12589	9091	9111
55°	8592	12657	11374	8783	8954
60°	7746	11437	10326	8523	8773
65°	7027	10051	9196	8114	8605
70°	6334	8683	8278	7508	8155
75°	5525	7345	7077	6810	7456
80°	4638	5756	5756	5911	6232
85°	3507	4146	4301	4609	4455

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 21907 cd/sqm



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CATALOG NUMBER: S122DRP-S485D835-X4F0-XX-UDD-W-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.4	4.8
10°-20°	283.8	13.3
20°-30°	372.2	17.4
30°-40°	393.4	18.4
40°-50°	365.2	17.1
50°-60°	292.3	13.7
60°-70°	199.9	9.4
70°-80°	103.2	4.8
80°-90°	24.5	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°	759.4	35.5
0°-40°	1152.7	53.9
0°-60°	1810.2	84.7
0°-90°	2137.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2137.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1051	1051	1051	1051	1051	
5°	1373	1269	1052	882	842	135
15°	1311	1426	978	675	618	360
25°	867	1104	851	532	487	400
35°	641	772	680	429	401	400
45°	446	549	506	344	339	343
55°	256	378	339	262	267	235
65°	154	221	202	178	189	153
75°	74	99	95	92	100	79
85°	16	19	20	21	20	19
90°	0	0	0	0	0	



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CATALOG NUMBER: S122DRP-S485D835-X4F0-XX-UDD-W-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7
1°	1108.5	1102.7	1077.4	1078.9	1060.1	1039.1	1019.7	1007.4	997.3
2°	1173.5	1161.9	1122.2	1102.7	1060.1	1015.3	974.9	964.0	950.3
3°	1252.2	1224.7	1169.9	1123.6	1058.6	993.7	938.0	918.6	916.4
4°	1315.7	1291.2	1218.2	1145.3	1055.0	972.7	909.9	888.9	878.8
5°	1372.8	1356.9	1268.8	1172.7	1052.1	952.5	882.4	853.6	842.0
6°	1438.5	1406.0	1309.2	1200.2	1047.1	933.0	857.9	823.2	807.3
7°	1465.2	1445.0	1354.7	1218.2	1040.6	910.6	826.8	789.3	777.7
8°	1484.0	1476.0	1390.8	1247.8	1037.7	889.7	799.4	776.3	762.6
9°	1491.9	1485.4	1416.8	1260.1	1032.6	878.8	785.7	747.4	732.2
10°	1485.4	1488.3	1435.6	1278.9	1024.7	856.4	762.6	729.4	710.6
11°	1470.3	1477.5	1445.7	1300.6	1014.6	838.4	741.6	707.7	689.6
12°	1441.4	1457.3	1450.0	1315.7	1005.2	822.5	727.2	694.7	678.8
13°	1396.6	1432.0	1447.2	1322.2	999.4	804.5	709.1	671.6	651.4
14°	1356.2	1393.0	1439.2	1336.7	989.3	784.2	692.5	655.0	637.6
15°	1310.7	1353.3	1426.2	1341.0	977.8	767.6	675.2	634.0	618.1
16°	1247.1	1304.2	1402.4	1346.1	964.0	748.9	659.3	620.3	599.4
17°	1194.4	1255.8	1384.3	1348.9	956.8	734.4	645.6	599.4	585.6
18°	1146.0	1215.3	1351.8	1346.8	945.3	717.8	625.4	584.2	571.2
19°	1107.8	1164.1	1319.3	1341.7	929.4	701.9	610.2	573.4	558.2
20°	1052.1	1117.1	1283.2	1339.6	914.9	687.5	595.8	558.2	545.2
21°	1005.9	1072.4	1250.0	1332.3	904.8	673.7	584.9	543.8	532.2
22.5°	945.3	1003.8	1194.4	1318.6	882.4	650.6	561.1	530.0	514.2
23°	938.0	987.9	1180.0	1314.3	875.9	645.6	553.2	522.1	509.1
24°	892.6	945.3	1146.0	1300.6	859.3	629.7	540.2	512.7	497.5
25°	867.3	910.6	1104.1	1287.6	851.4	615.3	531.5	500.4	487.4
26°	831.9	881.7	1066.6	1268.8	834.1	602.3	517.8	489.6	477.3
27°	805.9	847.8	1027.6	1255.1	813.8	588.5	506.9	478.8	463.6
28°	780.6	821.1	990.0	1232.7	799.4	573.4	499.0	469.4	454.9
29°	754.6	790.0	959.7	1215.3	785.7	560.4	486.7	457.1	443.4
30°	733.0	765.5	921.4	1192.2	766.9	545.2	475.9	448.4	436.2
32.5°	683.1	710.6	843.5	1137.4	722.1	514.9	449.9	424.6	417.4
35°	641.3	659.3	772.0	1076.0	680.2	482.4	428.9	404.4	400.8
37.5°	597.2	614.5	707.0	1011.7	636.2	452.8	405.1	389.2	386.3
40°	548.8	571.9	651.4	948.2	592.1	423.9	384.2	371.9	372.6
42.5°	500.4	527.2	597.2	873.8	551.0	396.5	364.0	355.3	356.7
45°	446.3	480.2	548.8	805.9	505.5	370.5	343.7	339.4	339.4
47.5°	390.0	433.3	506.9	735.9	462.2	344.5	324.2	321.3	322.8
50°	341.6	380.6	460.0	668.0	421.0	320.6	304.0	303.3	304.7
52.5°	293.9	332.9	418.8	604.4	379.1	299.0	284.5	284.5	286.0
55°	256.4	286.7	377.7	538.0	339.4	273.7	262.1	264.3	267.2
57.5°	230.4	250.6	337.2	474.4	302.6	249.1	241.9	243.4	247.0
60°	201.5	217.4	297.5	415.9	268.6	225.3	221.7	224.6	228.2
62.5°	175.5	189.2	260.0	363.2	231.8	202.2	200.8	205.1	208.7
65°	154.5	163.9	221.0	309.8	202.2	179.1	178.4	184.9	189.2



TEST NUMBER: P735872

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	132.9	140.1	187.0	259.2	172.6	156.0	156.0	163.2	166.8
70°	112.7	118.4	154.5	213.8	147.3	132.9	133.6	142.3	145.1
72.5°	91.7	96.8	125.7	171.9	119.2	111.2	113.4	120.6	123.5
75°	74.4	78.0	98.9	135.8	95.3	88.8	91.7	98.2	100.4
77.5°	57.0	59.9	72.9	99.7	72.9	69.3	72.2	78.0	78.0
80°	41.9	42.6	52.0	70.0	52.0	49.8	53.4	56.3	56.3
82.5°	27.4	28.9	33.9	44.8	34.7	33.9	35.4	37.6	37.6
85°	15.9	16.6	18.8	24.6	19.5	19.5	20.9	20.9	20.2
87.5°	6.5	7.2	7.9	9.4	8.7	9.4	9.4	7.9	8.7
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	19.66	21.18	20.03	21.50	21.81	19.24	20.76	19.60	21.07	21.39
	3H	20.86	22.23	21.24	22.56	22.92	20.75	22.12	21.13	22.44	22.81
	4H	21.26	22.54	21.66	22.89	23.27	21.28	22.56	21.68	22.91	23.29
	6H	21.51	22.70	21.92	23.06	23.46	21.63	22.81	22.04	23.18	23.57
	8H	21.57	22.70	22.00	23.09	23.49	21.73	22.85	22.15	23.24	23.64
	12H	21.61	22.69	22.04	23.07	23.50	21.78	22.86	22.21	23.24	23.67
4H	2H	20.72	22.00	21.12	22.35	22.73	20.31	21.59	20.71	21.94	22.32
	3H	22.08	23.14	22.49	23.54	23.95	21.93	23.00	22.34	23.40	23.80
	4H	22.54	23.50	22.97	23.92	24.35	22.51	23.47	22.95	23.89	24.33
	6H	22.85	23.69	23.31	24.13	24.59	22.93	23.77	23.39	24.21	24.67
	8H	22.93	23.71	23.40	24.16	24.62	23.05	23.83	23.52	24.28	24.74
	12H	22.98	23.68	23.46	24.15	24.63	23.13	23.82	23.61	24.30	24.77
8H	4H	22.90	23.68	23.36	24.12	24.59	22.86	23.64	23.32	24.08	24.55
	6H	23.30	23.94	23.80	24.43	24.91	23.38	24.02	23.87	24.51	24.99
	8H	23.42	24.00	23.93	24.51	25.00	23.54	24.12	24.06	24.63	25.12
	12H	23.51	24.02	24.02	24.51	25.07	23.67	24.17	24.17	24.67	25.23
12H	4H	22.92	23.62	23.40	24.09	24.57	22.87	23.57	23.35	24.05	24.52
	6H	23.34	23.92	23.86	24.43	24.92	23.42	23.99	23.93	24.50	24.99
	8H	23.51	24.02	24.02	24.51	25.08	23.63	24.14	24.14	24.64	25.20