

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: P735879

Luminaire Tested: S122DRP-S485D950-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735879
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-S485D950-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

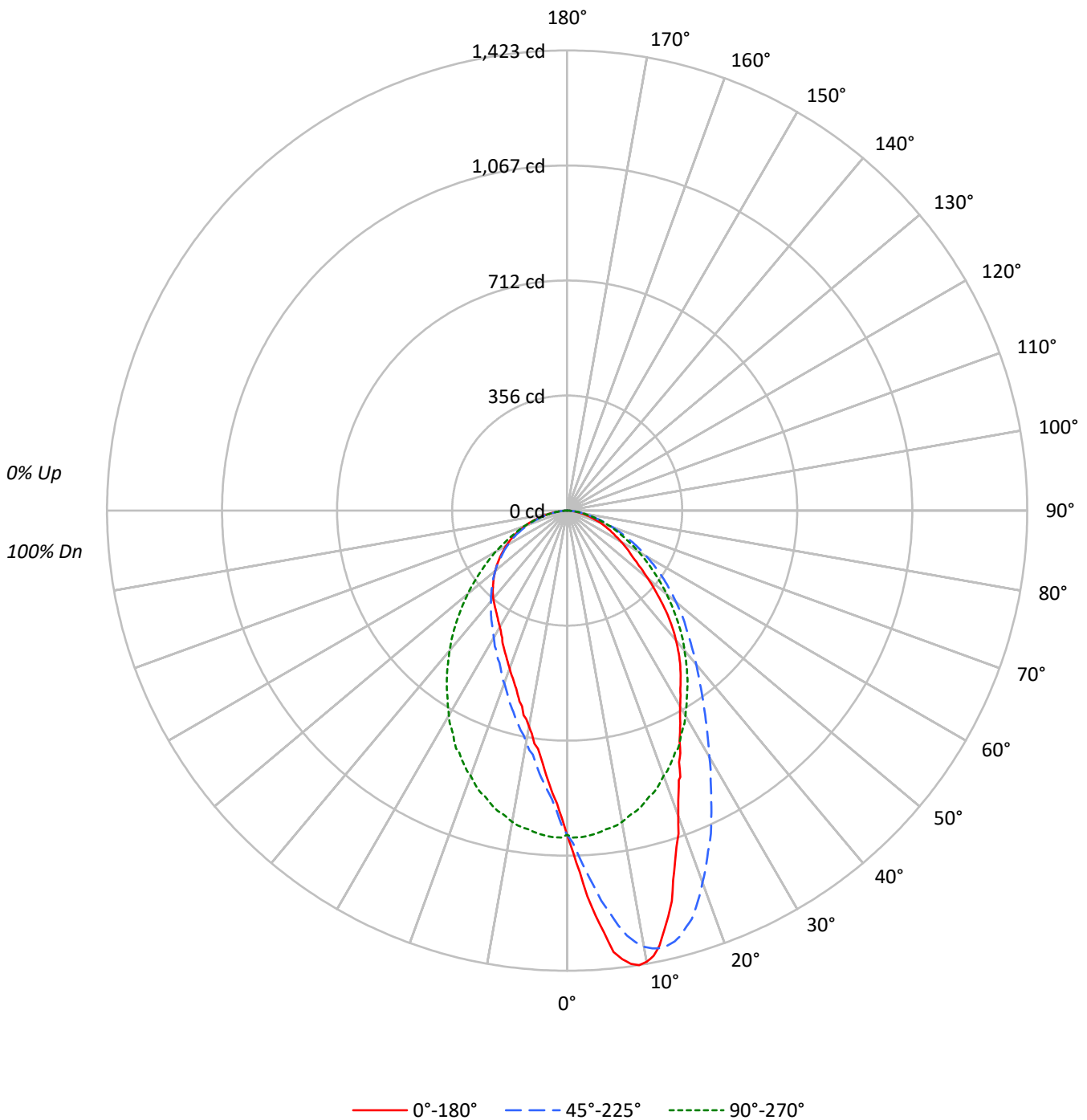
Lumens per Lamp: N/A
Luminaire Lumens: 2039.5 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 19.6
Input Voltage (V): 120
Input Current (A_{in}): 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				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°	19267	19267	19267	19267	19267
5°	25268	23354	19366	16244	15499
10°	27659	26732	19081	14199	13231
15°	24882	27075	18562	12817	11735
20°	20531	25041	17855	11627	10639
25°	17548	22339	17225	10753	9862
30°	15519	19511	16238	10076	9235
35°	14356	17280	15229	9602	8971
40°	13138	15592	14174	9196	8920
45°	11572	14233	13108	8913	8802
50°	9745	13121	12009	8672	8693
55°	8197	12074	10851	8381	8542
60°	7389	10910	9853	8131	8369
65°	6704	9587	8773	7741	8209
70°	6041	8284	7896	7160	7784
75°	5273	7011	6751	6498	7115
80°	4428	5490	5490	5645	5944
85°	3352	3948	4102	4411	4256

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 20898 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	4.8
10°-20°	270.7	13.3
20°-30°	355.0	17.4
30°-40°	375.3	18.4
40°-50°	348.4	17.1
50°-60°	278.9	13.7
60°-70°	190.7	9.4
70°-80°	98.4	4.8
80°-90°	23.4	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°	724.4	35.5
0°-40°	1099.7	53.9
0°-60°	1727.0	84.7
0°-90°	2039.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2039.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1002	1002	1002	1002	1002	
5°	1310	1210	1004	842	803	129
15°	1250	1361	933	644	590	343
25°	827	1053	812	507	465	381
35°	612	736	649	409	382	382
45°	426	524	482	328	324	327
55°	245	360	324	250	255	224
65°	147	211	193	170	180	146
75°	71	94	91	88	96	76
85°	15	18	19	20	19	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°	1002.4	1002.4	1002.4	1002.4	1002.4	1002.4	1002.4	1002.4	1002.4
1°	1057.5	1052.0	1027.9	1029.2	1011.3	991.3	972.7	961.0	951.4
2°	1119.5	1108.5	1070.6	1052.0	1011.3	968.6	930.0	919.7	906.6
3°	1194.6	1168.4	1116.0	1072.0	1009.9	947.9	894.9	876.3	874.2
4°	1255.2	1231.8	1162.2	1092.6	1006.5	928.0	868.0	848.1	838.4
5°	1309.6	1294.5	1210.4	1118.8	1003.7	908.7	841.9	814.3	803.3
6°	1372.3	1341.3	1249.0	1145.0	998.9	890.1	818.4	785.4	770.2
7°	1397.8	1378.5	1292.4	1162.2	992.7	868.7	788.8	753.0	742.0
8°	1415.7	1408.1	1326.8	1190.4	990.0	848.7	762.6	740.6	727.5
9°	1423.3	1417.1	1351.6	1202.2	985.1	838.4	749.5	713.0	698.6
10°	1417.1	1419.9	1369.6	1220.1	977.6	817.1	727.5	695.8	677.9
11°	1402.6	1409.5	1379.2	1240.7	967.9	799.8	707.5	675.1	657.9
12°	1375.1	1390.2	1383.3	1255.2	959.0	784.7	693.7	662.7	647.6
13°	1332.4	1366.1	1380.6	1261.4	953.5	767.5	676.5	640.7	621.4
14°	1293.8	1328.9	1373.0	1275.2	943.8	748.2	660.7	624.8	608.3
15°	1250.4	1291.0	1360.6	1279.3	932.8	732.3	644.1	604.9	589.7
16°	1189.8	1244.2	1337.9	1284.1	919.7	714.4	629.0	591.8	571.8
17°	1139.5	1198.0	1320.6	1286.9	912.8	700.6	615.9	571.8	558.7
18°	1093.3	1159.4	1289.6	1284.8	901.8	684.8	596.6	557.3	544.9
19°	1056.8	1110.5	1258.6	1280.0	886.6	669.6	582.1	547.0	532.5
20°	1003.7	1065.8	1224.2	1277.9	872.9	655.8	568.4	532.5	520.1
21°	959.7	1023.0	1192.5	1271.0	863.2	642.8	558.0	518.8	507.7
22.5°	901.8	957.6	1139.5	1258.0	841.9	620.7	535.3	505.7	490.5
23°	894.9	942.4	1125.7	1253.8	835.7	615.9	527.7	498.1	485.7
24°	851.5	901.8	1093.3	1240.7	819.8	600.7	515.3	489.1	474.7
25°	827.4	868.7	1053.3	1228.3	812.2	587.0	507.0	477.4	465.0
26°	793.6	841.2	1017.5	1210.4	795.7	574.6	494.0	467.1	455.4
27°	768.8	808.8	980.3	1197.3	776.4	561.5	483.6	456.8	442.3
28°	744.7	783.3	944.5	1176.0	762.6	547.0	476.0	447.8	434.0
29°	719.9	753.7	915.6	1159.4	749.5	534.6	464.3	436.1	423.0
30°	699.2	730.2	879.1	1137.4	731.6	520.1	454.0	427.8	416.1
32.5°	651.7	677.9	804.7	1085.0	688.9	491.2	429.2	405.1	398.2
35°	611.8	629.0	736.4	1026.5	649.0	460.2	409.2	385.8	382.3
37.5°	569.7	586.3	674.4	965.2	606.9	431.9	386.5	371.3	368.6
40°	523.6	545.6	621.4	904.5	564.9	404.4	366.5	354.8	355.5
42.5°	477.4	502.9	569.7	833.6	525.6	378.2	347.2	338.9	340.3
45°	425.7	458.1	523.6	768.8	482.2	353.4	327.9	323.8	323.8
47.5°	372.0	413.3	483.6	702.0	440.9	328.6	309.3	306.6	307.9
50°	325.9	363.1	438.8	637.2	401.6	305.9	290.0	289.3	290.7
52.5°	280.4	317.6	399.6	576.6	361.7	285.2	271.4	271.4	272.8
55°	244.6	273.5	360.3	513.2	323.8	261.1	250.1	252.1	254.9
57.5°	219.8	239.1	321.7	452.6	288.7	237.7	230.8	232.2	235.6
60°	192.2	207.4	283.8	396.8	256.3	214.9	211.5	214.3	217.7
62.5°	167.4	180.5	248.0	346.5	221.1	192.9	191.5	195.7	199.1
65°	147.4	156.4	210.8	295.5	192.9	170.9	170.2	176.4	180.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	126.8	133.6	178.4	247.3	164.7	148.8	148.8	155.7	159.1
70°	107.5	113.0	147.4	203.9	140.5	126.8	127.4	135.7	138.5
72.5°	87.5	92.3	119.9	164.0	113.7	106.1	108.2	115.0	117.8
75°	71.0	74.4	94.4	129.5	90.9	84.7	87.5	93.7	95.8
77.5°	54.4	57.2	69.6	95.1	69.6	66.1	68.9	74.4	74.4
80°	40.0	40.6	49.6	66.8	49.6	47.5	51.0	53.7	53.7
82.5°	26.2	27.6	32.4	42.7	33.1	32.4	33.8	35.8	35.8
85°	15.2	15.8	17.9	23.4	18.6	18.6	20.0	20.0	19.3
87.5°	6.2	6.9	7.6	9.0	8.3	9.0	9.0	7.6	8.3
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	19.50	21.02	19.86	21.33	21.65	19.07	20.60	19.44	20.91	21.22
	3H	20.70	22.07	21.08	22.39	22.76	20.59	21.95	20.96	22.28	22.64
	4H	21.10	22.38	21.50	22.73	23.11	21.11	22.40	21.51	22.74	23.12
	6H	21.35	22.53	21.76	22.90	23.29	21.47	22.65	21.88	23.02	23.41
	8H	21.41	22.54	21.84	22.93	23.33	21.56	22.69	21.99	23.08	23.48
	12H	21.44	22.52	21.87	22.90	23.33	21.62	22.69	22.05	23.08	23.51
4H	2H	20.55	21.84	20.95	22.19	22.56	20.14	21.43	20.54	21.77	22.15
	3H	21.92	22.98	22.33	23.38	23.78	21.77	22.83	22.18	23.23	23.64
	4H	22.38	23.34	22.81	23.75	24.19	22.35	23.31	22.78	23.73	24.16
	6H	22.69	23.52	23.15	23.97	24.43	22.77	23.61	23.23	24.05	24.51
	8H	22.77	23.55	23.23	23.99	24.46	22.89	23.67	23.35	24.11	24.58
	12H	22.82	23.51	23.30	23.99	24.46	22.96	23.66	23.45	24.14	24.61
8H	4H	22.73	23.51	23.20	23.96	24.42	22.69	23.47	23.16	23.92	24.38
	6H	23.14	23.78	23.63	24.27	24.75	23.21	23.85	23.71	24.35	24.82
	8H	23.26	23.83	23.77	24.34	24.83	23.38	23.96	23.89	24.47	24.95
	12H	23.34	23.85	23.85	24.35	24.91	23.50	24.01	24.01	24.50	25.07
12H	4H	22.76	23.45	23.24	23.93	24.40	22.71	23.40	23.19	23.88	24.35
	6H	23.18	23.76	23.69	24.27	24.76	23.25	23.83	23.77	24.34	24.83
	8H	23.35	23.86	23.86	24.35	24.92	23.47	23.98	23.98	24.47	25.04