

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: P1055599

Luminaire Tested: S123R3DR-S1165D950-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055599
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S1165D950-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

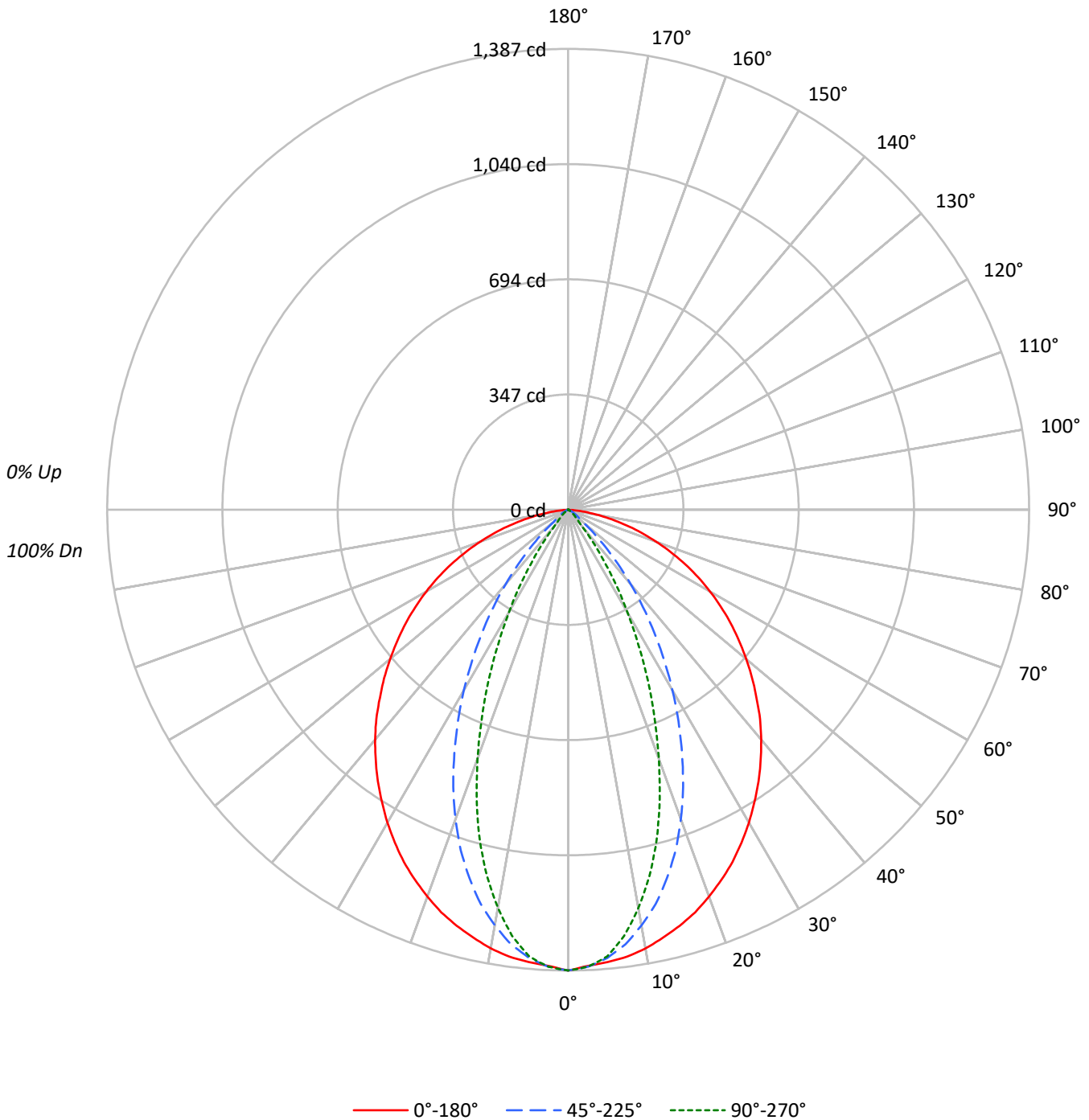
Lumens per Lamp: N/A
Luminaire Lumens: 1623.3 lumens
Efficiency: N/A
Efficacy: 38.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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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CATALOG NUMBER: S123R3DR-S1165D950-X4F0-XX-UDD-F-B

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16722	16722	16722
5°	16542	16386	16333
10°	16416	15553	14901
15°	16180	14330	12840
20°	15894	12719	10227
25°	15560	10775	7541
30°	15142	8733	4948
35°	14696	6650	2711
40°	14221	4597	929
45°	13664	2673	540
50°	13115	1052	324
55°	12551	666	151
60°	11900	417	70
65°	11083	205	40
70°	9941	102	49
75°	8445	65	65
80°	6290	97	0
85°	2393	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13664 cd/sqm



TEST NUMBER: P1055599

CATALOG NUMBER: S123R3DR-S1165D950-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.2	7.8
10°-20°	322.7	19.9
20°-30°	384.9	23.7
30°-40°	326.5	20.1
40°-50°	221.9	13.7
50°-60°	137.6	8.5
60°-70°	69.7	4.3
70°-80°	28.4	1.7
80°-90°	4.4	0.3
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°	834.8	51.4
0°-40°	1161.4	71.5
0°-60°	1520.8	93.7
0°-90°	1623.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1623.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1387	1387	1387	1387	1387	
5°	1367	1380	1354	1344	1350	130
15°	1296	1263	1148	1058	1029	365
25°	1170	1060	810	626	567	538
35°	998	801	452	243	184	624
45°	801	525	157	39	32	619
55°	597	265	32	12	7	533
65°	388	65	7	1	1	384
75°	181	12	1	1	1	193
85°	17	0	0	1	0	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1387.0	1387.0	1387.0	1387.0	1387.0
2.5°	1374.0	1392.7	1376.9	1375.5	1376.9
5°	1366.8	1379.8	1353.9	1343.8	1349.6
7.5°	1356.8	1362.5	1319.4	1293.5	1293.5
10°	1340.9	1336.6	1270.4	1227.3	1217.2
12.5°	1319.4	1302.1	1215.8	1148.1	1129.4
15°	1296.3	1263.2	1148.1	1057.5	1028.7
17.5°	1270.4	1220.1	1074.8	956.8	915.1
20°	1238.8	1171.2	991.3	847.4	797.1
22.5°	1205.7	1117.9	903.6	735.2	679.1
25°	1169.7	1060.4	810.0	625.9	566.9
27.5°	1129.4	999.9	717.9	520.8	456.1
30°	1087.7	936.6	627.3	420.1	355.4
32.5°	1043.1	870.5	536.7	328.0	267.6
35°	998.5	801.4	451.8	243.2	184.2
37.5°	951.0	732.3	369.8	168.3	116.5
40°	903.6	664.7	292.1	106.5	59.0
42.5°	854.6	594.2	221.6	53.2	40.3
45°	801.4	525.2	156.8	38.8	31.7
47.5°	751.0	459.0	103.6	31.7	24.5
50°	699.2	392.8	56.1	23.0	17.3
52.5°	647.4	329.5	40.3	17.3	11.5
55°	597.1	264.7	31.7	11.5	7.2
57.5°	545.3	208.6	24.5	7.2	4.3
60°	493.5	153.9	17.3	4.3	2.9
62.5°	441.7	106.5	11.5	2.9	1.4
65°	388.5	64.7	7.2	1.4	1.4
67.5°	333.8	44.6	4.3	1.4	1.4
70°	282.0	31.7	2.9	1.4	1.4
72.5°	230.2	20.1	1.4	1.4	0.0
75°	181.3	11.5	1.4	1.4	1.4
77.5°	133.8	4.3	1.4	1.4	0.0
80°	90.6	1.4	1.4	1.4	0.0
82.5°	50.4	0.0	1.4	1.4	0.0
85°	17.3	0.0	0.0	1.4	0.0
87.5°	0.0	0.0	0.0	1.4	0.0
90°	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	18.83	20.11	19.20	20.43	20.74	0.00	0.00	0.00	0.00	0.00
	3H	20.78	21.91	21.16	22.24	22.61	0.00	0.00	0.00	0.00	0.00
	4H	21.61	22.66	22.01	23.01	23.40	0.00	0.00	0.00	0.00	0.00
	6H	22.16	23.13	22.58	23.50	23.89	0.00	0.00	0.00	0.00	0.00
	8H	22.29	23.20	22.72	23.59	24.00	0.00	0.00	0.00	0.00	0.00
	12H	22.31	23.19	22.74	23.57	24.00	0.00	0.00	0.00	0.00	0.00
4H	2H	18.60	19.65	19.00	20.00	20.39	0.00	0.00	0.00	0.00	0.00
	3H	20.55	21.41	20.96	21.82	22.22	0.00	0.00	0.00	0.00	0.00
	4H	21.36	22.13	21.80	22.55	23.00	0.00	0.00	0.00	0.00	0.00
	6H	21.97	22.63	22.43	23.07	23.54	0.00	0.00	0.00	0.00	0.00
	8H	22.12	22.74	22.59	23.18	23.65	0.00	0.00	0.00	0.00	0.00
	12H	22.16	22.71	22.65	23.19	23.67	0.00	0.00	0.00	0.00	0.00
8H	4H	21.22	21.84	21.69	22.29	22.76	0.00	0.00	0.00	0.00	0.00
	6H	21.80	22.31	22.31	22.80	23.28	0.00	0.00	0.00	0.00	0.00
	8H	21.95	22.40	22.48	22.92	23.41	0.00	0.00	0.00	0.00	0.00
	12H	22.01	22.41	22.53	22.90	23.47	0.00	0.00	0.00	0.00	0.00
12H	4H	21.17	21.72	21.66	22.20	22.68	0.00	0.00	0.00	0.00	0.00
	6H	21.74	22.19	22.26	22.71	23.20	0.00	0.00	0.00	0.00	0.00
	8H	21.91	22.30	22.42	22.80	23.37	0.00	0.00	0.00	0.00	0.02