

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: P1055585

Luminaire Tested: S123R3DR-S1165D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055585
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S1165D850-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

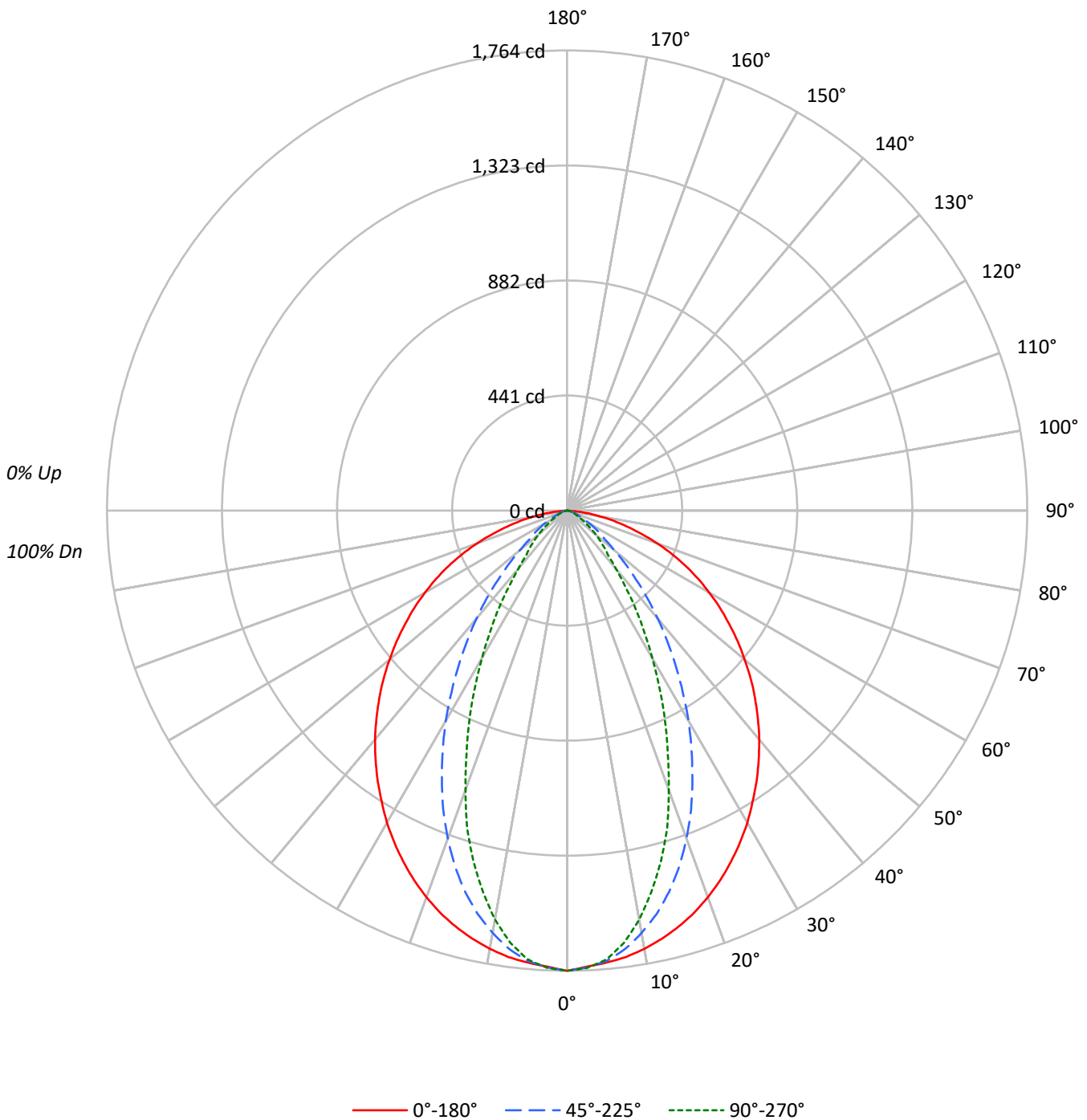
Lumens per Lamp: N/A
Luminaire Lumens: 2453.9 lumens
Efficiency: N/A
Efficacy: 58.6 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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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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	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21274	21274	21274
5°	21051	20970	20909
10°	20886	20128	19494
15°	20605	18872	17348
20°	20236	17167	14614
25°	19757	15108	11792
30°	19233	12946	9081
35°	18635	10684	6720
40°	18032	8502	4580
45°	17367	6360	3451
50°	16658	4423	2697
55°	15927	3235	1970
60°	15165	2421	1411
65°	14267	1623	1098
70°	12912	1181	885
75°	11143	857	703
80°	8943	694	583
85°	4634	692	456

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 17367 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.1	6.6
10°-20°	424.6	17.3
20°-30°	533.4	21.7
30°-40°	496.8	20.2
40°-50°	380.3	15.5
50°-60°	252.8	10.3
60°-70°	136.3	5.6
70°-80°	55.8	2.3
80°-90°	10.7	0.4
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°	1121.1	45.7
0°-40°	1618.0	65.9
0°-60°	2251.1	91.7
0°-90°	2453.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2453.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1764	1764	1764	1764	1764	
5°	1739	1758	1733	1726	1728	165
15°	1651	1624	1512	1423	1390	465
25°	1485	1385	1136	947	886	684
35°	1266	1079	726	514	457	792
45°	1019	753	373	219	202	786
55°	758	438	154	107	94	679
65°	500	169	57	42	38	494
75°	239	40	18	17	15	256
85°	34	5	5	5	3	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1764.5	1764.5	1764.5	1764.5	1764.5
2.5°	1749.5	1771.2	1752.8	1754.5	1754.5
5°	1739.4	1757.8	1732.7	1726.1	1727.7
7.5°	1726.1	1737.8	1696.0	1674.2	1670.9
10°	1706.0	1709.3	1644.1	1605.6	1592.3
12.5°	1680.9	1669.2	1583.9	1520.3	1495.2
15°	1650.8	1624.0	1512.0	1423.3	1389.9
17.5°	1617.3	1572.2	1430.0	1314.6	1274.5
20°	1577.2	1513.6	1338.0	1194.2	1139.0
22.5°	1533.7	1451.8	1241.0	1070.4	1008.5
25°	1485.2	1384.9	1135.7	946.7	886.4
27.5°	1435.0	1312.9	1032.0	829.6	767.7
30°	1381.5	1239.4	929.9	715.8	652.3
32.5°	1323.0	1159.1	824.6	610.5	546.9
35°	1266.1	1078.8	725.9	513.5	456.6
37.5°	1205.9	998.5	630.5	428.2	364.6
40°	1145.7	916.6	540.2	344.5	291.0
42.5°	1082.1	834.6	454.9	274.3	232.5
45°	1018.6	752.6	373.0	219.1	202.4
47.5°	955.0	670.7	301.1	189.0	172.3
50°	888.1	592.1	235.8	160.6	143.8
52.5°	824.6	513.5	184.0	132.1	117.1
55°	757.7	438.2	153.9	107.0	93.7
57.5°	695.8	361.3	127.1	83.6	73.6
60°	628.9	292.7	100.4	65.2	58.5
62.5°	565.3	229.1	76.9	51.8	46.8
65°	500.1	168.9	56.9	41.8	38.5
67.5°	434.9	122.1	43.5	33.5	31.8
70°	366.3	92.0	33.5	26.8	25.1
72.5°	301.1	65.2	25.1	21.7	20.1
75°	239.2	40.1	18.4	16.7	15.1
77.5°	184.0	23.4	13.4	13.4	11.7
80°	128.8	13.4	10.0	10.0	8.4
82.5°	78.6	8.4	6.7	6.7	6.7
85°	33.5	5.0	5.0	5.0	3.3
87.5°	5.0	1.7	1.7	1.7	1.7
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	20.44	21.79	20.80	22.11	22.42	9.01	10.36	9.37	10.68	10.99
	3H	22.19	23.39	22.57	23.72	24.09	9.67	10.88	10.05	11.21	11.57
	4H	22.89	24.01	23.29	24.36	24.75	9.87	10.99	10.27	11.34	11.73
	6H	23.40	24.44	23.82	24.81	25.20	9.99	11.02	10.41	11.39	11.79
	8H	23.54	24.52	23.97	24.91	25.32	10.03	11.01	10.46	11.40	11.80
	12H	23.59	24.53	24.03	24.91	25.34	10.04	10.97	10.47	11.35	11.78
4H	2H	20.24	21.37	20.65	21.72	22.10	9.56	10.69	9.97	11.04	11.42
	3H	22.04	22.96	22.45	23.36	23.76	10.37	11.29	10.78	11.69	12.09
	4H	22.73	23.55	23.17	23.97	24.42	10.62	11.45	11.06	11.87	12.31
	6H	23.30	24.01	23.76	24.46	24.92	10.82	11.53	11.28	11.98	12.44
	8H	23.48	24.14	23.95	24.59	25.06	10.87	11.54	11.34	11.98	12.45
	12H	23.56	24.15	24.05	24.63	25.11	10.91	11.49	11.39	11.98	12.45
8H	4H	22.61	23.27	23.08	23.72	24.19	10.94	11.60	11.41	12.05	12.52
	6H	23.16	23.70	23.66	24.20	24.68	11.18	11.73	11.69	12.22	12.70
	8H	23.34	23.82	23.86	24.34	24.83	11.27	11.76	11.79	12.27	12.76
	12H	23.44	23.87	23.96	24.37	24.94	11.35	11.78	11.87	12.27	12.85
12H	4H	22.57	23.15	23.05	23.63	24.11	10.98	11.57	11.47	12.05	12.52
	6H	23.10	23.59	23.62	24.10	24.60	11.23	11.72	11.75	12.23	12.72
	8H	23.30	23.73	23.81	24.22	24.79	11.36	11.78	11.87	12.28	12.85