

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: P1055582

Luminaire Tested: S123R3DR-S1165D840-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055582
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-S1165D840-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

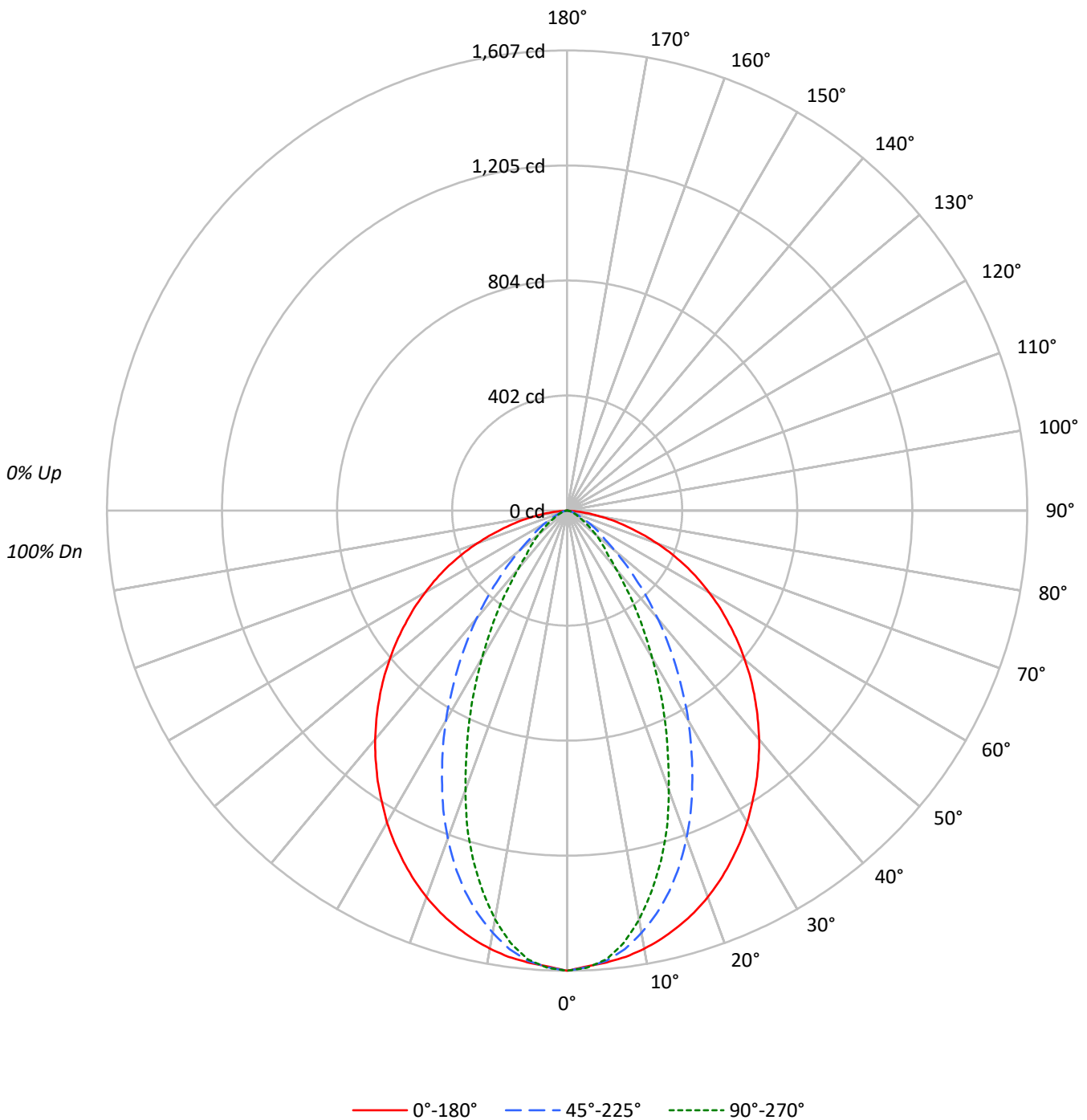
Lumens per Lamp: N/A
Luminaire Lumens: 2234.6 lumens
Efficiency: N/A
Efficacy: 53.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19372	19372	19372
5°	19169	19096	19041
10°	19019	18328	17750
15°	18763	17185	15797
20°	18427	15632	13307
25°	17991	13756	10738
30°	17513	11789	8269
35°	16969	9729	6120
40°	16420	7742	4171
45°	15814	5790	3142
50°	15168	4027	2457
55°	14501	2945	1793
60°	13809	2204	1285
65°	12992	1478	998
70°	11756	1075	804
75°	10146	783	638
80°	8144	632	528
85°	4219	636	415

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15814 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	6.6
10°-20°	386.6	17.3
20°-30°	485.8	21.7
30°-40°	452.4	20.2
40°-50°	346.3	15.5
50°-60°	230.2	10.3
60°-70°	124.1	5.6
70°-80°	50.8	2.3
80°-90°	9.7	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°	1020.9	45.7
0°-40°	1473.3	65.9
0°-60°	2049.9	91.7
0°-90°	2234.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2234.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1607	1607	1607	1607	1607	
5°	1584	1601	1578	1572	1573	150
15°	1503	1479	1377	1296	1266	424
25°	1352	1261	1034	862	807	623
35°	1153	982	661	468	416	721
45°	928	685	340	200	184	716
55°	690	399	140	98	85	618
65°	455	154	52	38	35	450
75°	218	37	17	15	14	233
85°	30	5	5	5	3	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1606.8	1606.8	1606.8	1606.8	1606.8
2.5°	1593.1	1612.9	1596.1	1597.7	1597.7
5°	1583.9	1600.7	1577.9	1571.8	1573.3
7.5°	1571.8	1582.4	1544.4	1524.6	1521.5
10°	1553.5	1556.5	1497.1	1462.1	1449.9
12.5°	1530.6	1520.0	1442.3	1384.4	1361.6
15°	1503.2	1478.9	1376.8	1296.1	1265.6
17.5°	1472.8	1431.6	1302.2	1197.1	1160.5
20°	1436.2	1378.3	1218.4	1087.4	1037.2
22.5°	1396.6	1322.0	1130.1	974.7	918.4
25°	1352.4	1261.1	1034.1	862.0	807.2
27.5°	1306.8	1195.6	939.7	755.4	699.1
30°	1258.0	1128.6	846.8	651.9	594.0
32.5°	1204.7	1055.5	750.9	555.9	498.0
35°	1152.9	982.4	661.0	467.6	415.8
37.5°	1098.1	909.2	574.2	389.9	332.0
40°	1043.3	834.6	491.9	313.7	265.0
42.5°	985.4	760.0	414.3	249.8	211.7
45°	927.5	685.4	339.6	199.5	184.3
47.5°	869.6	610.7	274.1	172.1	156.9
50°	808.7	539.2	214.7	146.2	131.0
52.5°	750.9	467.6	167.5	120.3	106.6
55°	689.9	399.0	140.1	97.5	85.3
57.5°	633.6	329.0	115.8	76.2	67.0
60°	572.7	266.5	91.4	59.4	53.3
62.5°	514.8	208.7	70.1	47.2	42.6
65°	455.4	153.8	51.8	38.1	35.0
67.5°	396.0	111.2	39.6	30.5	28.9
70°	333.5	83.8	30.5	24.4	22.8
72.5°	274.1	59.4	22.8	19.8	18.3
75°	217.8	36.6	16.8	15.2	13.7
77.5°	167.5	21.3	12.2	12.2	10.7
80°	117.3	12.2	9.1	9.1	7.6
82.5°	71.6	7.6	6.1	6.1	6.1
85°	30.5	4.6	4.6	4.6	3.0
87.5°	4.6	1.5	1.5	1.5	1.5
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	20.11	21.47	20.48	21.78	22.09	8.69	10.04	9.05	10.36	10.67
	3H	21.86	23.07	22.24	23.40	23.76	9.35	10.55	9.73	10.88	11.25
	4H	22.56	23.69	22.97	24.04	24.42	9.55	10.67	9.95	11.02	11.40
	6H	23.08	24.11	23.49	24.48	24.87	9.67	10.70	10.08	11.07	11.46
	8H	23.22	24.20	23.65	24.59	24.99	9.70	10.68	10.13	11.07	11.48
	12H	23.27	24.20	23.70	24.59	25.02	9.71	10.65	10.14	11.03	11.46
4H	2H	19.92	21.04	20.32	21.39	21.78	9.24	10.37	9.65	10.72	11.10
	3H	21.71	22.63	22.12	23.04	23.44	10.04	10.96	10.45	11.37	11.77
	4H	22.41	23.23	22.84	23.65	24.09	10.30	11.12	10.73	11.54	11.98
	6H	22.98	23.69	23.44	24.13	24.60	10.50	11.21	10.96	11.65	12.12
	8H	23.15	23.81	23.62	24.26	24.73	10.55	11.21	11.02	11.66	12.13
	12H	23.24	23.82	23.72	24.31	24.78	10.58	11.17	11.07	11.65	12.12
8H	4H	22.28	22.95	22.75	23.39	23.86	10.61	11.28	11.08	11.72	12.19
	6H	22.84	23.38	23.34	23.87	24.35	10.86	11.40	11.36	11.90	12.38
	8H	23.01	23.50	23.53	24.01	24.50	10.95	11.43	11.47	11.95	12.44
	12H	23.12	23.55	23.63	24.04	24.61	11.03	11.46	11.54	11.95	12.52
12H	4H	22.24	22.83	22.73	23.31	23.78	10.66	11.24	11.14	11.73	12.20
	6H	22.78	23.26	23.30	23.78	24.27	10.91	11.39	11.43	11.91	12.40
	8H	22.97	23.40	23.49	23.90	24.47	11.03	11.46	11.55	11.95	12.53