

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: P1055726

Luminaire Tested: S123R3DR-H1165D930-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055726
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-H1165D930-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

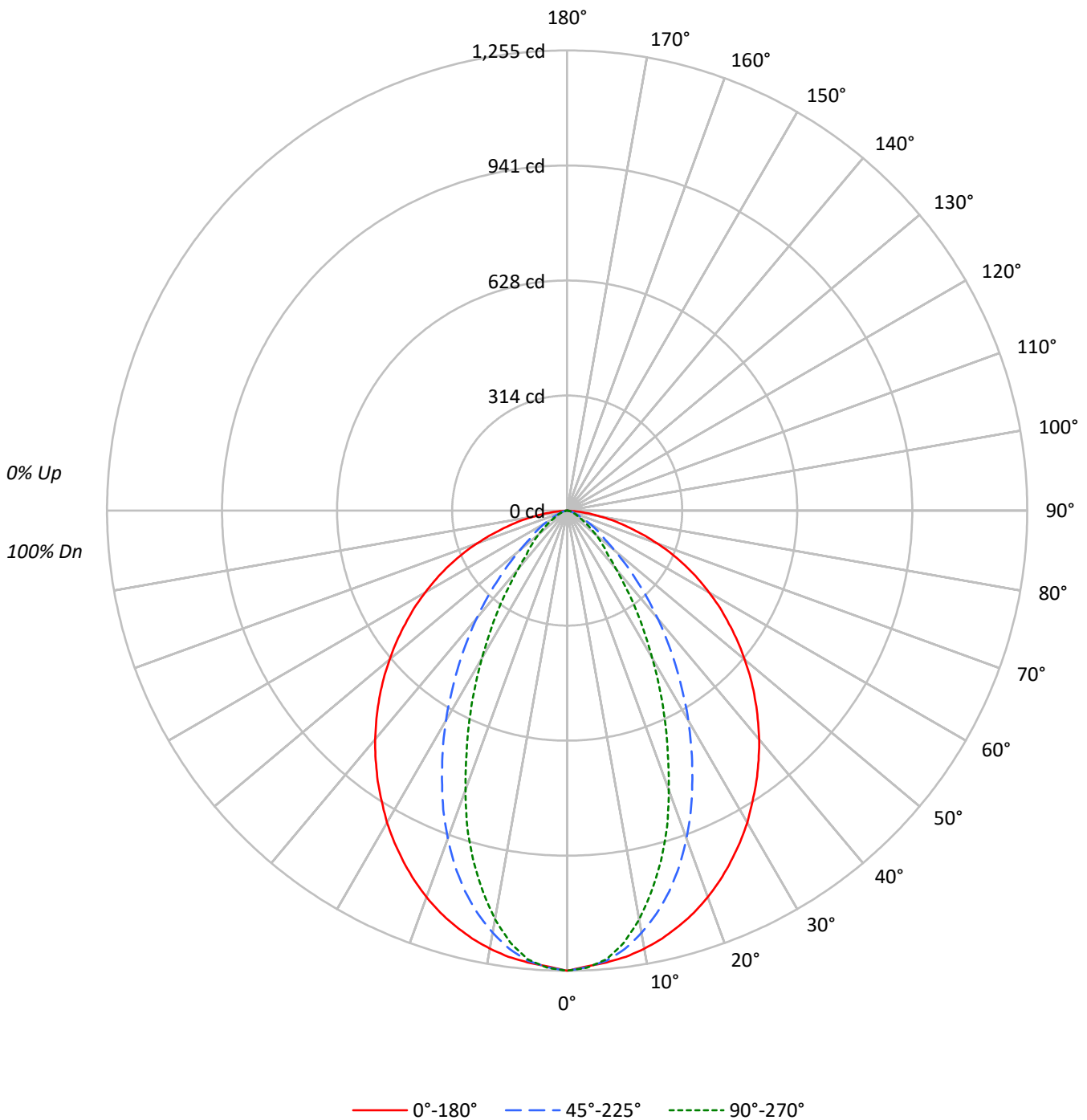
Lumens per Lamp: N/A
Luminaire Lumens: 1745.1 lumens
Efficiency: N/A
Efficacy: 47.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
Input Voltage (V): 120
Input Current (Ain): 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°	15128	15128	15128
5°	14971	14913	14870
10°	14852	14314	13862
15°	14654	13420	12337
20°	14390	12208	10392
25°	14050	10743	8386
30°	13678	9206	6458
35°	13252	7598	4779
40°	12824	6047	3258
45°	12351	4522	2454
50°	11847	3145	1919
55°	11325	2300	1400
60°	10783	1722	1003
65°	10145	1153	782
70°	9183	839	627
75°	7924	610	498
80°	6360	493	410
85°	3292	498	332

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12351 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	6.6
10°-20°	301.9	17.3
20°-30°	379.4	21.7
30°-40°	353.3	20.2
40°-50°	270.5	15.5
50°-60°	179.8	10.3
60°-70°	96.9	5.6
70°-80°	39.7	2.3
80°-90°	7.6	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°	797.3	45.7
0°-40°	1150.6	65.9
0°-60°	1600.9	91.7
0°-90°	1745.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1745.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1255	1255	1255	1255	1255	
5°	1237	1250	1232	1228	1229	117
15°	1174	1155	1075	1012	988	331
25°	1056	985	808	673	630	486
35°	900	767	516	365	325	563
45°	724	535	265	156	144	559
55°	539	312	109	76	67	483
65°	356	120	40	30	27	351
75°	170	28	13	12	11	182
85°	24	4	4	4	2	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1254.8	1254.8	1254.8	1254.8	1254.8
2.5°	1244.1	1259.6	1246.5	1247.7	1247.7
5°	1237.0	1250.1	1232.2	1227.5	1228.7
7.5°	1227.5	1235.8	1206.1	1190.6	1188.2
10°	1213.2	1215.6	1169.2	1141.8	1132.3
12.5°	1195.4	1187.0	1126.4	1081.2	1063.3
15°	1174.0	1154.9	1075.2	1012.2	988.4
17.5°	1150.2	1118.1	1017.0	934.9	906.3
20°	1121.6	1076.4	951.5	849.2	810.0
22.5°	1090.7	1032.4	882.6	761.2	717.2
25°	1056.2	984.8	807.6	673.2	630.4
27.5°	1020.5	933.7	733.9	590.0	545.9
30°	982.5	881.4	661.3	509.1	463.9
32.5°	940.8	824.3	586.4	434.1	388.9
35°	900.4	767.2	516.2	365.2	324.7
37.5°	857.6	710.1	448.4	304.5	259.3
40°	814.8	651.8	384.2	245.0	207.0
42.5°	769.6	593.5	323.5	195.1	165.3
45°	724.4	535.2	265.2	155.8	143.9
47.5°	679.2	477.0	214.1	134.4	122.5
50°	631.6	421.1	167.7	114.2	102.3
52.5°	586.4	365.2	130.8	94.0	83.3
55°	538.8	311.6	109.4	76.1	66.6
57.5°	494.8	256.9	90.4	59.5	52.3
60°	447.2	208.1	71.4	46.4	41.6
62.5°	402.0	163.0	54.7	36.9	33.3
65°	355.6	120.1	40.4	29.7	27.4
67.5°	309.2	86.8	30.9	23.8	22.6
70°	260.5	65.4	23.8	19.0	17.8
72.5°	214.1	46.4	17.8	15.5	14.3
75°	170.1	28.5	13.1	11.9	10.7
77.5°	130.8	16.7	9.5	9.5	8.3
80°	91.6	9.5	7.1	7.1	5.9
82.5°	55.9	5.9	4.8	4.8	4.8
85°	23.8	3.6	3.6	3.6	2.4
87.5°	3.6	1.2	1.2	1.2	1.2
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	19.25	20.61	19.62	20.92	21.24	7.83	9.18	8.19	9.50	9.81
	3H	21.00	22.21	21.38	22.54	22.90	8.49	9.69	8.87	10.02	10.39
	4H	21.70	22.83	22.11	23.18	23.56	8.69	9.81	9.09	10.16	10.54
	6H	22.22	23.25	22.63	23.62	24.01	8.81	9.84	9.22	10.21	10.60
	8H	22.36	23.34	22.79	23.73	24.13	8.84	9.82	9.27	10.21	10.61
	12H	22.41	23.34	22.84	23.73	24.16	8.85	9.79	9.28	10.17	10.60
4H	2H	19.06	20.18	19.46	20.53	20.92	8.38	9.51	8.78	9.86	10.24
	3H	20.85	21.77	21.26	22.18	22.58	9.18	10.10	9.59	10.50	10.91
	4H	21.55	22.37	21.98	22.79	23.23	9.44	10.26	9.87	10.68	11.12
	6H	22.12	22.83	22.58	23.27	23.74	9.63	10.34	10.10	10.79	11.26
	8H	22.29	22.95	22.76	23.40	23.87	9.69	10.35	10.16	10.80	11.27
	12H	22.38	22.96	22.86	23.45	23.92	9.72	10.31	10.21	10.79	11.26
8H	4H	21.42	22.09	21.89	22.53	23.00	9.75	10.41	10.22	10.86	11.33
	6H	21.98	22.52	22.48	23.01	23.50	10.00	10.54	10.50	11.03	11.51
	8H	22.15	22.64	22.67	23.15	23.64	10.09	10.57	10.61	11.09	11.58
	12H	22.26	22.69	22.77	23.18	23.75	10.17	10.60	10.68	11.09	11.66
12H	4H	21.38	21.97	21.87	22.45	22.92	9.80	10.38	10.28	10.86	11.34
	6H	21.92	22.40	22.44	22.92	23.41	10.04	10.53	10.56	11.04	11.53
	8H	22.11	22.54	22.63	23.04	23.61	10.17	10.60	10.69	11.09	11.66