

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: P1055734

Luminaire Tested: S123R3DR-H1165D950-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055734
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-H1165D950-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

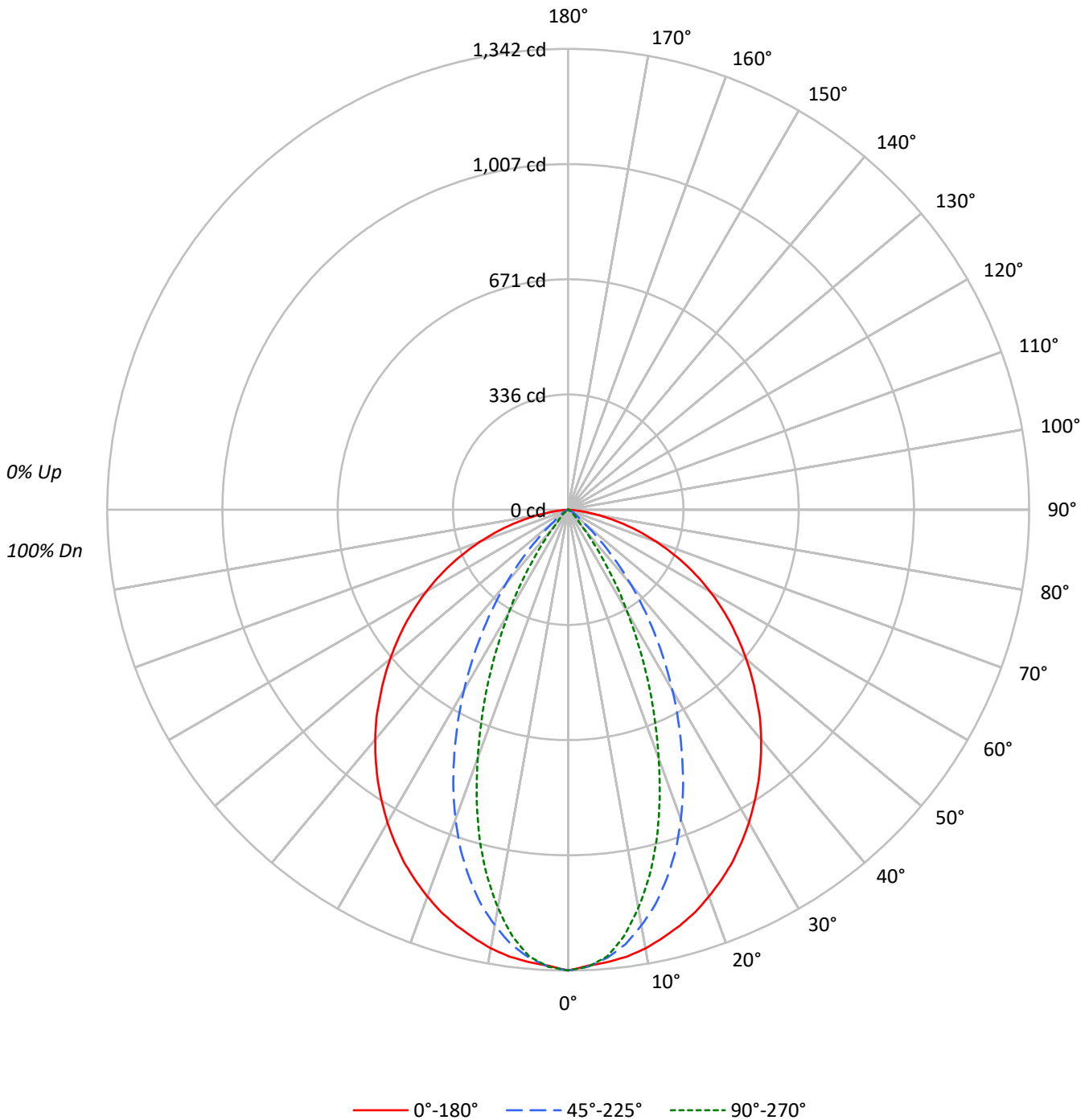
Lumens per Lamp: N/A
Luminaire Lumens: 1570.3 lumens
Efficiency: N/A
Efficacy: 42.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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	57	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°	16176	16176	16176
5°	16002	15851	15800
10°	15880	15045	14414
15°	15652	13862	12421
20°	15374	12303	9892
25°	15052	10424	7295
30°	14648	8448	4786
35°	14216	6432	2621
40°	13755	4446	899
45°	13217	2587	522
50°	12687	1018	313
55°	12141	643	147
60°	11511	403	68
65°	10721	200	40
70°	9616	99	49
75°	8171	65	65
80°	6089	97	0
85°	2310	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13217 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.0	7.8
10°-20°	312.2	19.9
20°-30°	372.4	23.7
30°-40°	315.9	20.1
40°-50°	214.7	13.7
50°-60°	133.1	8.5
60°-70°	67.4	4.3
70°-80°	27.5	1.8
80°-90°	4.2	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°	807.5	51.4
0°-40°	1123.4	71.5
0°-60°	1471.2	93.7
0°-90°	1570.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1570.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1342	1342	1342	1342	1342	
5°	1322	1335	1310	1300	1306	125
15°	1254	1222	1111	1023	995	353
25°	1132	1026	784	605	548	521
35°	966	775	437	235	178	604
45°	775	508	152	38	31	599
55°	578	256	31	11	7	516
65°	376	63	7	1	1	371
75°	175	11	1	1	1	186
85°	17	0	0	1	0	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1341.7	1341.7	1341.7	1341.7	1341.7
2.5°	1329.1	1347.2	1331.9	1330.5	1331.9
5°	1322.2	1334.7	1309.7	1299.9	1305.5
7.5°	1312.4	1318.0	1276.3	1251.2	1251.2
10°	1297.1	1293.0	1228.9	1187.2	1177.4
12.5°	1276.3	1259.6	1176.0	1110.6	1092.5
15°	1254.0	1222.0	1110.6	1023.0	995.1
17.5°	1228.9	1180.2	1039.7	925.5	885.2
20°	1198.3	1132.9	958.9	819.8	771.0
22.5°	1166.3	1081.4	874.0	711.2	656.9
25°	1131.5	1025.7	783.6	605.4	548.4
27.5°	1092.5	967.3	694.5	503.8	441.2
30°	1052.2	906.0	606.8	406.4	343.8
32.5°	1009.0	842.0	519.1	317.3	258.9
35°	965.9	775.2	437.0	235.2	178.1
37.5°	920.0	708.4	357.7	162.8	112.7
40°	874.0	643.0	282.5	103.0	57.1
42.5°	826.7	574.8	214.3	51.5	39.0
45°	775.2	508.0	151.7	37.6	30.6
47.5°	726.5	444.0	100.2	30.6	23.7
50°	676.4	380.0	54.3	22.3	16.7
52.5°	626.3	318.7	39.0	16.7	11.1
55°	577.6	256.1	30.6	11.1	7.0
57.5°	527.5	201.8	23.7	7.0	4.2
60°	477.4	148.9	16.7	4.2	2.8
62.5°	427.3	103.0	11.1	2.8	1.4
65°	375.8	62.6	7.0	1.4	1.4
67.5°	322.9	43.1	4.2	1.4	1.4
70°	272.8	30.6	2.8	1.4	1.4
72.5°	222.7	19.5	1.4	1.4	0.0
75°	175.4	11.1	1.4	1.4	1.4
77.5°	129.4	4.2	1.4	1.4	0.0
80°	87.7	1.4	1.4	1.4	0.0
82.5°	48.7	0.0	1.4	1.4	0.0
85°	16.7	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	18.72	20.00	19.08	20.31	20.63	0.00	0.00	0.00	0.00	0.00
	3H	20.66	21.80	21.04	22.13	22.49	0.00	0.00	0.00	0.00	0.00
	4H	21.49	22.55	21.89	22.90	23.28	0.00	0.00	0.00	0.00	0.00
	6H	22.04	23.01	22.46	23.38	23.78	0.00	0.00	0.00	0.00	0.00
	8H	22.17	23.09	22.60	23.48	23.88	0.00	0.00	0.00	0.00	0.00
	12H	22.19	23.07	22.63	23.45	23.88	0.00	0.00	0.00	0.00	0.00
4H	2H	18.48	19.54	18.89	19.89	20.27	0.00	0.00	0.00	0.00	0.00
	3H	20.43	21.30	20.85	21.70	22.11	0.00	0.00	0.00	0.00	0.00
	4H	21.25	22.02	21.68	22.44	22.88	0.00	0.00	0.00	0.00	0.00
	6H	21.85	22.51	22.31	22.96	23.43	0.00	0.00	0.00	0.00	0.00
	8H	22.00	22.62	22.47	23.07	23.54	0.00	0.00	0.00	0.00	0.00
	12H	22.05	22.59	22.54	23.08	23.55	0.00	0.00	0.00	0.00	0.00
8H	4H	21.11	21.72	21.58	22.17	22.64	0.00	0.00	0.00	0.00	0.00
	6H	21.69	22.19	22.19	22.69	23.17	0.00	0.00	0.00	0.00	0.00
	8H	21.84	22.29	22.36	22.80	23.30	0.00	0.00	0.00	0.00	0.00
	12H	21.90	22.29	22.41	22.79	23.36	0.00	0.00	0.00	0.00	0.00
12H	4H	21.06	21.60	21.54	22.09	22.56	0.00	0.00	0.00	0.00	0.00
	6H	21.62	22.08	22.15	22.59	23.08	0.00	0.00	0.00	0.00	0.00
	8H	21.79	22.19	22.31	22.68	23.26	0.00	0.00	0.00	0.00	0.00