

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: P1055710

Luminaire Tested: S123R3DR-H1165D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055710
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-H1165D830-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

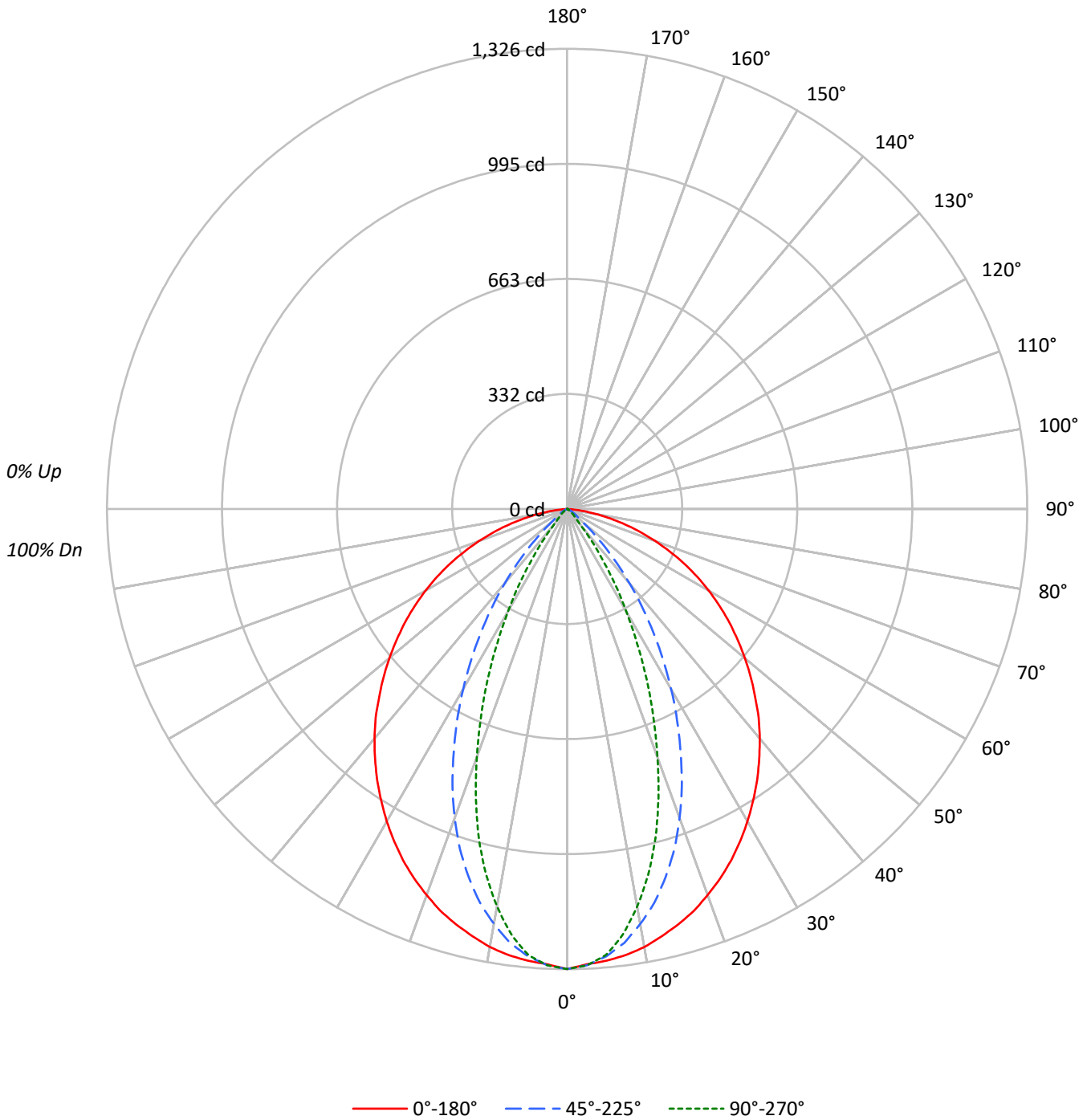
Lumens per Lamp: N/A
Luminaire Lumens: 1551.5 lumens
Efficiency: N/A
Efficacy: 42.4 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
Input Voltage (V): 120
Input Current (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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15982	15982	15982
5°	15809	15659	15610
10°	15690	14865	14242
15°	15464	13696	12272
20°	15190	12155	9774
25°	14871	10299	7207
30°	14471	8346	4728
35°	14046	6355	2590
40°	13590	4393	888
45°	13059	2556	517
50°	12535	1005	309
55°	11994	637	145
60°	11372	398	68
65°	10592	197	40
70°	9500	99	49
75°	8073	65	65
80°	6013	97	0
85°	2282	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13059 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.5	7.8
10°-20°	308.4	19.9
20°-30°	367.9	23.7
30°-40°	312.1	20.1
40°-50°	212.1	13.7
50°-60°	131.5	8.5
60°-70°	66.6	4.3
70°-80°	27.2	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°	797.9	51.4
0°-40°	1109.9	71.5
0°-60°	1453.5	93.7
0°-90°	1551.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1551.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1326	1326	1326	1326	1326	
5°	1306	1319	1294	1284	1290	124
15°	1239	1207	1097	1011	983	349
25°	1118	1013	774	598	542	514
35°	954	766	432	232	176	596
45°	766	502	150	37	30	592
55°	571	253	30	11	7	510
65°	371	62	7	1	1	367
75°	173	11	1	1	1	184
85°	16	0	0	1	0	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1325.6	1325.6	1325.6	1325.6	1325.6
2.5°	1313.2	1331.1	1315.9	1314.6	1315.9
5°	1306.3	1318.7	1293.9	1284.3	1289.8
7.5°	1296.7	1302.2	1260.9	1236.2	1236.2
10°	1281.6	1277.4	1214.2	1172.9	1163.3
12.5°	1260.9	1244.4	1161.9	1097.3	1079.4
15°	1238.9	1207.3	1097.3	1010.7	983.2
17.5°	1214.2	1166.0	1027.2	914.4	874.5
20°	1183.9	1119.3	947.4	809.9	761.8
22.5°	1152.3	1068.4	863.5	702.7	649.0
25°	1117.9	1013.4	774.2	598.1	541.8
27.5°	1079.4	955.7	686.2	497.8	435.9
30°	1039.5	895.2	599.5	401.5	339.6
32.5°	996.9	831.9	512.9	313.5	255.8
35°	954.3	765.9	431.8	232.4	176.0
37.5°	908.9	699.9	353.4	160.9	111.4
40°	863.5	635.3	279.1	101.8	56.4
42.5°	816.8	567.9	211.8	50.9	38.5
45°	765.9	501.9	149.9	37.1	30.3
47.5°	717.8	438.6	99.0	30.3	23.4
50°	668.3	375.4	53.6	22.0	16.5
52.5°	618.8	314.9	38.5	16.5	11.0
55°	570.6	253.0	30.3	11.0	6.9
57.5°	521.1	199.4	23.4	6.9	4.1
60°	471.6	147.1	16.5	4.1	2.8
62.5°	422.1	101.8	11.0	2.8	1.4
65°	371.3	61.9	6.9	1.4	1.4
67.5°	319.0	42.6	4.1	1.4	1.4
70°	269.5	30.3	2.8	1.4	1.4
72.5°	220.0	19.3	1.4	1.4	0.0
75°	173.3	11.0	1.4	1.4	1.4
77.5°	127.9	4.1	1.4	1.4	0.0
80°	86.6	1.4	1.4	1.4	0.0
82.5°	48.1	0.0	1.4	1.4	0.0
85°	16.5	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	18.68	19.96	19.04	20.27	20.59	0.00	0.00	0.00	0.00	0.00
	3H	20.62	21.76	21.00	22.09	22.45	0.00	0.00	0.00	0.00	0.00
	4H	21.45	22.50	21.85	22.86	23.24	0.00	0.00	0.00	0.00	0.00
	6H	22.00	22.97	22.42	23.34	23.74	0.00	0.00	0.00	0.00	0.00
	8H	22.13	23.05	22.56	23.44	23.84	0.00	0.00	0.00	0.00	0.00
	12H	22.15	23.03	22.59	23.41	23.84	0.00	0.00	0.00	0.00	0.00
4H	2H	18.44	19.50	18.84	19.85	20.23	0.00	0.00	0.00	0.00	0.00
	3H	20.39	21.26	20.81	21.66	22.06	0.00	0.00	0.00	0.00	0.00
	4H	21.21	21.98	21.64	22.40	22.84	0.00	0.00	0.00	0.00	0.00
	6H	21.81	22.47	22.27	22.92	23.39	0.00	0.00	0.00	0.00	0.00
	8H	21.96	22.58	22.43	23.03	23.50	0.00	0.00	0.00	0.00	0.00
	12H	22.01	22.55	22.49	23.03	23.51	0.00	0.00	0.00	0.00	0.00
8H	4H	21.06	21.68	21.53	22.13	22.60	0.00	0.00	0.00	0.00	0.00
	6H	21.65	22.15	22.15	22.65	23.13	0.00	0.00	0.00	0.00	0.00
	8H	21.80	22.25	22.32	22.76	23.25	0.00	0.00	0.00	0.00	0.00
	12H	21.85	22.25	22.37	22.74	23.32	0.00	0.00	0.00	0.00	0.00
12H	4H	21.02	21.56	21.50	22.04	22.52	0.00	0.00	0.00	0.00	0.00
	6H	21.58	22.03	22.11	22.55	23.04	0.00	0.00	0.00	0.00	0.00
	8H	21.75	22.15	22.27	22.64	23.21	0.00	0.00	0.00	0.00	0.00