

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: P1055590

Luminaire Tested: S123R3DR-S1165D930-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055590
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-S1165D930-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

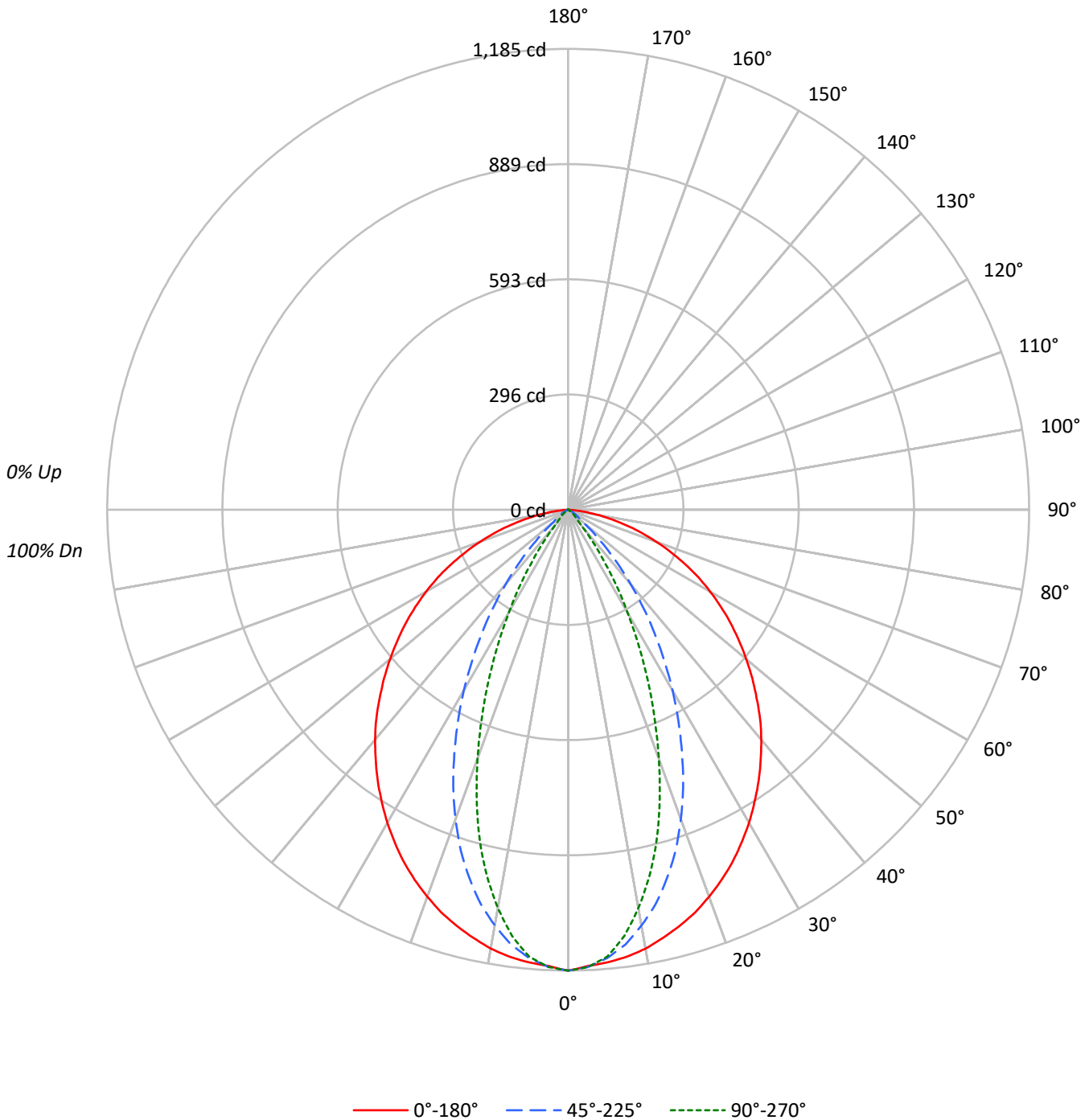
Lumens per Lamp: N/A
Luminaire Lumens: 1387.3 lumens
Efficiency: N/A
Efficacy: 33.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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	58	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°	14290	14290	14290
5°	14137	14003	13959
10°	14030	13292	12735
15°	13828	12247	10974
20°	13583	10870	8740
25°	13299	9210	6445
30°	12941	7463	4228
35°	12559	5683	2317
40°	12153	3928	793
45°	11678	2285	462
50°	11209	900	278
55°	10726	570	128
60°	10168	357	60
65°	9471	174	34
70°	8495	88	42
75°	7216	56	56
80°	5381	83	0
85°	2047	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11678 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	7.8
10°-20°	275.8	19.9
20°-30°	329.0	23.7
30°-40°	279.1	20.1
40°-50°	189.7	13.7
50°-60°	117.6	8.5
60°-70°	59.5	4.3
70°-80°	24.3	1.7
80°-90°	3.7	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°	713.5	51.4
0°-40°	992.5	71.5
0°-60°	1299.7	93.7
0°-90°	1387.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1387.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1185	1185	1185	1185	1185	
5°	1168	1179	1157	1148	1153	111
15°	1108	1080	981	904	879	312
25°	1000	906	692	535	484	460
35°	853	685	386	208	157	533
45°	685	449	134	33	27	529
55°	510	226	27	10	6	456
65°	332	55	6	1	1	328
75°	155	10	1	1	1	165
85°	15	0	0	1	0	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1185.3	1185.3	1185.3	1185.3	1185.3
2.5°	1174.3	1190.2	1176.7	1175.5	1176.7
5°	1168.1	1179.2	1157.0	1148.4	1153.4
7.5°	1159.5	1164.4	1127.5	1105.4	1105.4
10°	1146.0	1142.3	1085.7	1048.8	1040.2
12.5°	1127.5	1112.8	1039.0	981.2	965.2
15°	1107.9	1079.6	981.2	903.7	879.2
17.5°	1085.7	1042.7	918.5	817.7	782.0
20°	1058.7	1000.9	847.2	724.2	681.2
22.5°	1030.4	955.4	772.2	628.3	580.4
25°	999.7	906.2	692.3	534.9	484.5
27.5°	965.2	854.6	613.6	445.1	389.8
30°	929.6	800.5	536.1	359.0	303.7
32.5°	891.5	743.9	458.6	280.3	228.7
35°	853.3	684.9	386.1	207.8	157.4
37.5°	812.8	625.9	316.0	143.9	99.6
40°	772.2	568.1	249.6	91.0	50.4
42.5°	730.4	507.8	189.4	45.5	34.4
45°	684.9	448.8	134.0	33.2	27.1
47.5°	641.8	392.2	88.5	27.1	20.9
50°	597.6	335.7	48.0	19.7	14.8
52.5°	553.3	281.6	34.4	14.8	9.8
55°	510.3	226.2	27.1	9.8	6.1
57.5°	466.0	178.3	20.9	6.1	3.7
60°	421.7	131.6	14.8	3.7	2.5
62.5°	377.5	91.0	9.8	2.5	1.2
65°	332.0	55.3	6.1	1.2	1.2
67.5°	285.3	38.1	3.7	1.2	1.2
70°	241.0	27.1	2.5	1.2	1.2
72.5°	196.7	17.2	1.2	1.2	0.0
75°	154.9	9.8	1.2	1.2	1.2
77.5°	114.4	3.7	1.2	1.2	0.0
80°	77.5	1.2	1.2	1.2	0.0
82.5°	43.0	0.0	1.2	1.2	0.0
85°	14.8	0.0	0.0	1.2	0.0
87.5°	0.0	0.0	0.0	1.2	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	18.29	19.57	18.65	19.88	20.20	0.00	0.00	0.00	0.00	0.00
	3H	20.23	21.37	20.61	21.70	22.06	0.00	0.00	0.00	0.00	0.00
	4H	21.06	22.12	21.46	22.47	22.85	0.00	0.00	0.00	0.00	0.00
	6H	21.61	22.58	22.03	22.95	23.35	0.00	0.00	0.00	0.00	0.00
	8H	21.74	22.66	22.17	23.05	23.45	0.00	0.00	0.00	0.00	0.00
	12H	21.76	22.64	22.20	23.02	23.45	0.00	0.00	0.00	0.00	0.00
4H	2H	18.05	19.11	18.46	19.46	19.84	0.00	0.00	0.00	0.00	0.00
	3H	20.01	20.87	20.42	21.27	21.68	0.00	0.00	0.00	0.00	0.00
	4H	20.82	21.59	21.25	22.01	22.45	0.00	0.00	0.00	0.00	0.00
	6H	21.42	22.08	21.88	22.53	23.00	0.00	0.00	0.00	0.00	0.00
	8H	21.57	22.19	22.04	22.64	23.11	0.00	0.00	0.00	0.00	0.00
	12H	21.62	22.16	22.11	22.65	23.12	0.00	0.00	0.00	0.00	0.00
8H	4H	20.68	21.29	21.15	21.74	22.21	0.00	0.00	0.00	0.00	0.00
	6H	21.26	21.76	21.76	22.26	22.74	0.00	0.00	0.00	0.00	0.00
	8H	21.41	21.86	21.93	22.37	22.87	0.00	0.00	0.00	0.00	0.00
	12H	21.47	21.86	21.98	22.36	22.93	0.00	0.00	0.00	0.00	0.00
12H	4H	20.63	21.17	21.11	21.66	22.13	0.00	0.00	0.00	0.00	0.00
	6H	21.20	21.65	21.72	22.16	22.65	0.00	0.00	0.00	0.00	0.00
	8H	21.36	21.76	21.88	22.25	22.83	0.00	0.00	0.00	0.00	0.00