

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: P1055575

Luminaire Tested: S123R3DR-S1165D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055575  
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-S1165D830-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, 80 CRI LEDS  
Ballast/Driver: -

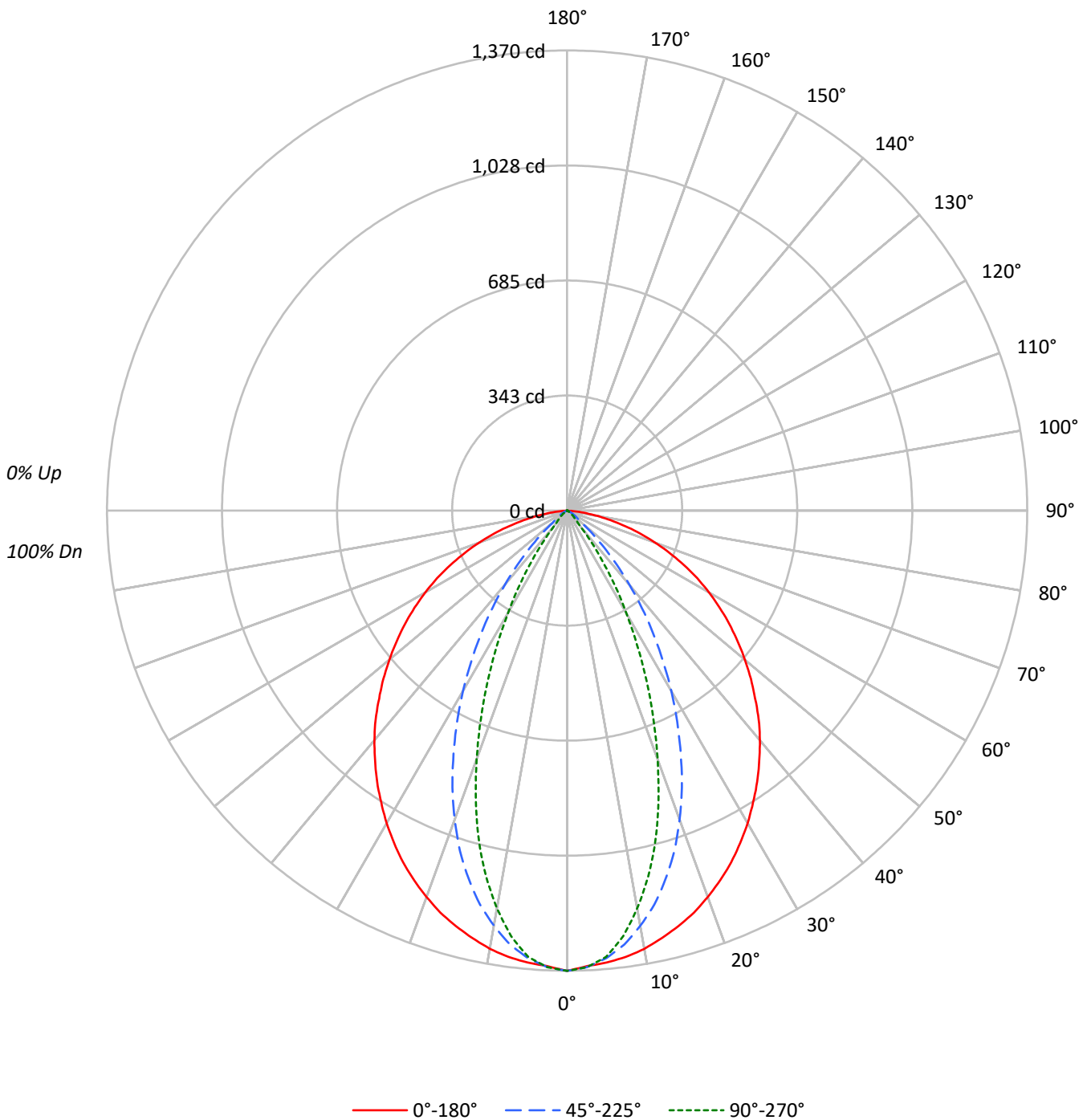
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1603.8 lumens  
Efficiency: N/A  
Efficacy: 38.3 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 (A<sub>in</sub>): 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°	16521	16521	16521
5°	16343	16188	16137
10°	16219	15367	14723
15°	15987	14159	12686
20°	15703	12566	10104
25°	15374	10646	7451
30°	14960	8629	4888
35°	14519	6569	2679
40°	14050	4542	918
45°	13500	2641	534
50°	12957	1039	321
55°	12400	658	149
60°	11757	412	68
65°	10949	203	40
70°	9821	99	49
75°	8343	65	65
80°	6221	97	0
85°	2365	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13500 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.6	7.8
10°-20°	318.8	19.9
20°-30°	380.3	23.7
30°-40°	322.6	20.1
40°-50°	219.3	13.7
50°-60°	135.9	8.5
60°-70°	68.8	4.3
70°-80°	28.1	1.7
80°-90°	4.3	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°	824.8	51.4
0°-40°	1147.4	71.5
0°-60°	1502.6	93.7
0°-90°	1603.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1603.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1370	1370	1370	1370	1370	
5°	1350	1363	1338	1328	1333	128
15°	1281	1248	1134	1045	1016	361
25°	1156	1048	800	618	560	532
35°	986	792	446	240	182	617
45°	792	519	155	38	31	612
55°	590	262	31	11	7	527
65°	384	64	7	1	1	379
75°	179	11	1	1	1	190
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°	1370.3	1370.3	1370.3	1370.3	1370.3
2.5°	1357.5	1376.0	1360.4	1358.9	1360.4
5°	1350.4	1363.2	1337.6	1327.7	1333.4
7.5°	1340.5	1346.2	1303.5	1277.9	1277.9
10°	1324.8	1320.6	1255.2	1212.5	1202.6
12.5°	1303.5	1286.5	1201.2	1134.4	1115.9
15°	1280.8	1248.1	1134.4	1044.8	1016.4
17.5°	1255.2	1205.4	1061.9	945.3	904.1
20°	1223.9	1157.1	979.4	837.3	787.5
22.5°	1191.2	1104.5	892.7	726.4	670.9
25°	1155.7	1047.6	800.3	618.4	560.1
27.5°	1115.9	987.9	709.3	514.6	450.6
30°	1074.6	925.4	619.8	415.1	351.1
32.5°	1030.6	860.0	530.2	324.1	264.4
35°	986.5	791.8	446.3	240.2	182.0
37.5°	939.6	723.5	365.3	166.3	115.1
40°	892.7	656.7	288.6	105.2	58.3
42.5°	844.4	587.1	218.9	52.6	39.8
45°	791.8	518.8	154.9	38.4	31.3
47.5°	742.0	453.5	102.3	31.3	24.2
50°	690.8	388.1	55.4	22.7	17.1
52.5°	639.7	325.5	39.8	17.1	11.4
55°	589.9	261.6	31.3	11.4	7.1
57.5°	538.7	206.1	24.2	7.1	4.3
60°	487.6	152.1	17.1	4.3	2.8
62.5°	436.4	105.2	11.4	2.8	1.4
65°	383.8	64.0	7.1	1.4	1.4
67.5°	329.8	44.1	4.3	1.4	1.4
70°	278.6	31.3	2.8	1.4	1.4
72.5°	227.4	19.9	1.4	1.4	0.0
75°	179.1	11.4	1.4	1.4	1.4
77.5°	132.2	4.3	1.4	1.4	0.0
80°	89.6	1.4	1.4	1.4	0.0
82.5°	49.8	0.0	1.4	1.4	0.0
85°	17.1	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	18.79	20.07	19.16	20.38	20.70	0.00	0.00	0.00	0.00	0.00
	3H	20.74	21.87	21.12	22.20	22.57	0.00	0.00	0.00	0.00	0.00
	4H	21.56	22.62	21.97	22.97	23.36	0.00	0.00	0.00	0.00	0.00
	6H	22.12	23.09	22.53	23.46	23.85	0.00	0.00	0.00	0.00	0.00
	8H	22.24	23.16	22.68	23.55	23.96	0.00	0.00	0.00	0.00	0.00
	12H	22.27	23.14	22.70	23.53	23.96	0.00	0.00	0.00	0.00	0.00
4H	2H	18.55	19.61	18.96	19.96	20.35	0.00	0.00	0.00	0.00	0.00
	3H	20.51	21.37	20.92	21.78	22.18	0.00	0.00	0.00	0.00	0.00
	4H	21.32	22.09	21.76	22.51	22.96	0.00	0.00	0.00	0.00	0.00
	6H	21.92	22.59	22.39	23.03	23.50	0.00	0.00	0.00	0.00	0.00
	8H	22.08	22.69	22.55	23.14	23.61	0.00	0.00	0.00	0.00	0.00
	12H	22.12	22.67	22.61	23.15	23.63	0.00	0.00	0.00	0.00	0.00
8H	4H	21.18	21.80	21.65	22.25	22.72	0.00	0.00	0.00	0.00	0.00
	6H	21.76	22.26	22.27	22.76	23.24	0.00	0.00	0.00	0.00	0.00
	8H	21.91	22.36	22.44	22.88	23.37	0.00	0.00	0.00	0.00	0.00
	12H	21.97	22.36	22.49	22.86	23.43	0.00	0.00	0.00	0.00	0.00
12H	4H	21.13	21.68	21.62	22.16	22.63	0.00	0.00	0.00	0.00	0.00
	6H	21.70	22.15	22.22	22.67	23.16	0.00	0.00	0.00	0.00	0.00
	8H	21.87	22.26	22.38	22.76	23.33	0.00	0.00	0.00	0.00	0.00