

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: P1055578

Luminaire Tested: S123R3DR-S1165D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055578  
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-S1165D835-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

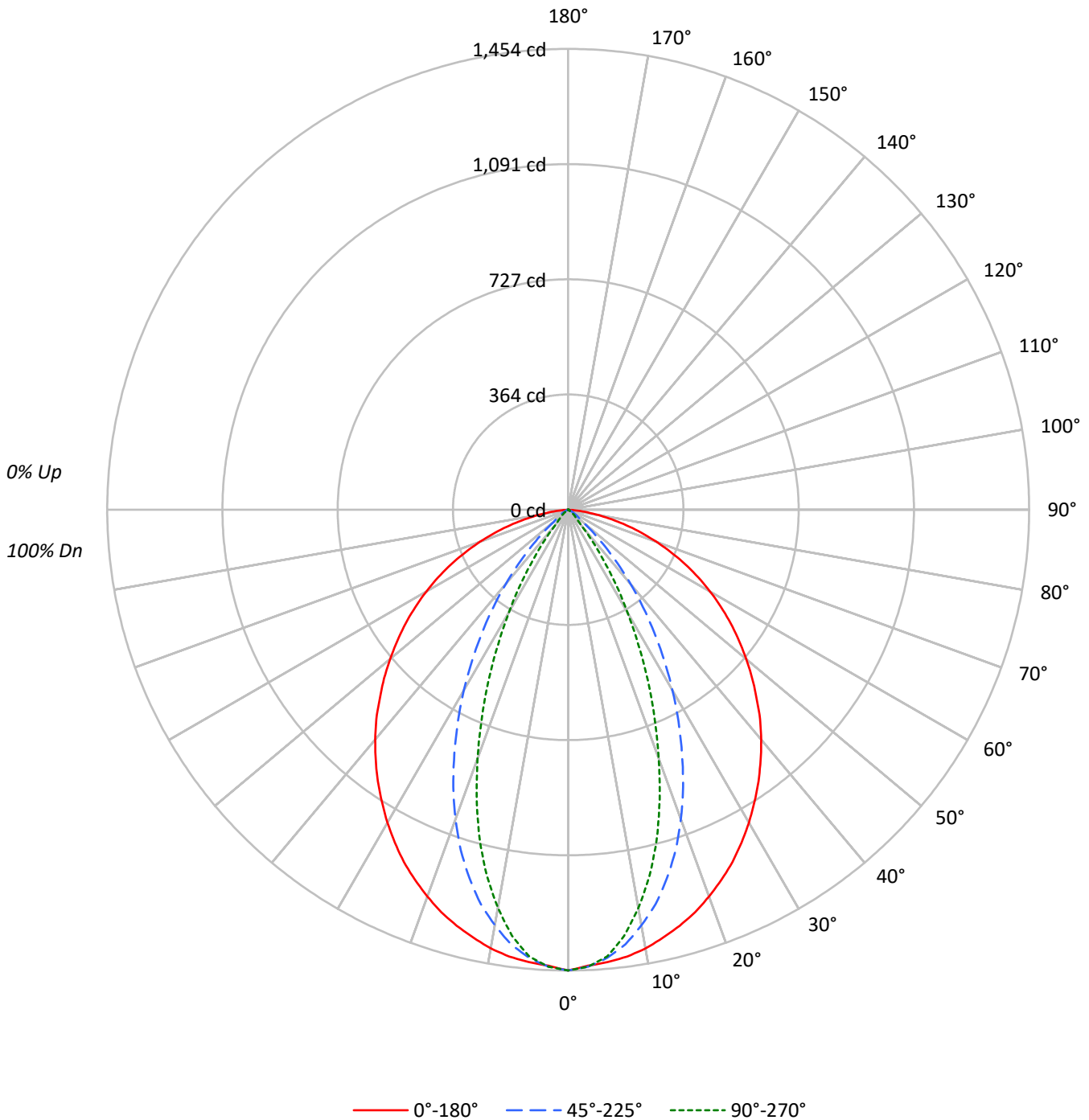
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1701.6 lumens  
Efficiency: N/A  
Efficacy: 40.6 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°	17529	17529	17529
5°	17339	17176	17120
10°	17208	16303	15620
15°	16960	15022	13459
20°	16660	13332	10720
25°	16311	11295	7905
30°	15873	9155	5186
35°	15405	6971	2841
40°	14906	4819	973
45°	14322	2803	566
50°	13748	1103	339
55°	13156	698	158
60°	12474	436	72
65°	11617	214	43
70°	10420	106	53
75°	8851	70	70
80°	6596	104	0
85°	2504	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14322 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.3	7.8
10°-20°	338.3	19.9
20°-30°	403.5	23.7
30°-40°	342.3	20.1
40°-50°	232.6	13.7
50°-60°	144.2	8.5
60°-70°	73.0	4.3
70°-80°	29.8	1.8
80°-90°	4.6	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°	875.1	51.4
0°-40°	1217.4	71.5
0°-60°	1594.2	93.7
0°-90°	1701.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1701.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1454	1454	1454	1454	1454	
5°	1433	1446	1419	1409	1415	136
15°	1359	1324	1204	1108	1078	383
25°	1226	1112	849	656	594	564
35°	1047	840	474	255	193	654
45°	840	550	164	41	33	649
55°	626	278	33	12	8	559
65°	407	68	8	2	2	402
75°	190	12	2	2	2	202
85°	18	0	0	2	0	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1453.9	1453.9	1453.9	1453.9	1453.9
2.5°	1440.3	1459.9	1443.3	1441.8	1443.3
5°	1432.7	1446.3	1419.2	1408.6	1414.6
7.5°	1422.2	1428.2	1383.0	1355.8	1355.8
10°	1405.6	1401.1	1331.7	1286.5	1275.9
12.5°	1383.0	1364.9	1274.4	1203.5	1183.9
15°	1358.8	1324.2	1203.5	1108.5	1078.3
17.5°	1331.7	1278.9	1126.6	1002.9	959.2
20°	1298.5	1227.6	1039.1	888.3	835.5
22.5°	1263.8	1171.8	947.1	770.7	711.8
25°	1226.1	1111.5	849.1	656.0	594.2
27.5°	1183.9	1048.2	752.6	546.0	478.1
30°	1140.2	981.8	657.6	440.4	372.5
32.5°	1093.4	912.4	562.5	343.9	280.5
35°	1046.7	840.0	473.6	254.9	193.0
37.5°	996.9	767.6	387.6	176.5	122.2
40°	947.1	696.8	306.2	111.6	61.8
42.5°	895.8	622.9	232.3	55.8	42.2
45°	840.0	550.5	164.4	40.7	33.2
47.5°	787.3	481.1	108.6	33.2	25.6
50°	733.0	411.7	58.8	24.1	18.1
52.5°	678.7	345.4	42.2	18.1	12.1
55°	625.9	277.5	33.2	12.1	7.5
57.5°	571.6	218.7	25.6	7.5	4.5
60°	517.3	161.4	18.1	4.5	3.0
62.5°	463.0	111.6	12.1	3.0	1.5
65°	407.2	67.9	7.5	1.5	1.5
67.5°	349.9	46.8	4.5	1.5	1.5
70°	295.6	33.2	3.0	1.5	1.5
72.5°	241.3	21.1	1.5	1.5	0.0
75°	190.0	12.1	1.5	1.5	1.5
77.5°	140.3	4.5	1.5	1.5	0.0
80°	95.0	1.5	1.5	1.5	0.0
82.5°	52.8	0.0	1.5	1.5	0.0
85°	18.1	0.0	0.0	1.5	0.0
87.5°	0.0	0.0	0.0	1.5	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	19.00	20.28	19.36	20.59	20.91	0.00	0.00	0.00	0.00	0.00
	3H	20.94	22.08	21.32	22.41	22.77	0.00	0.00	0.00	0.00	0.00
	4H	21.77	22.83	22.17	23.18	23.56	0.00	0.00	0.00	0.00	0.00
	6H	22.32	23.29	22.74	23.66	24.06	0.00	0.00	0.00	0.00	0.00
	8H	22.45	23.37	22.88	23.76	24.16	0.00	0.00	0.00	0.00	0.00
	12H	22.47	23.35	22.91	23.73	24.16	0.00	0.00	0.00	0.00	0.00
4H	2H	18.76	19.82	19.16	20.17	20.55	0.00	0.00	0.00	0.00	0.00
	3H	20.71	21.58	21.13	21.98	22.39	0.00	0.00	0.00	0.00	0.00
	4H	21.53	22.30	21.96	22.72	23.16	0.00	0.00	0.00	0.00	0.00
	6H	22.13	22.79	22.59	23.24	23.71	0.00	0.00	0.00	0.00	0.00
	8H	22.28	22.90	22.75	23.35	23.82	0.00	0.00	0.00	0.00	0.00
	12H	22.33	22.87	22.82	23.36	23.83	0.00	0.00	0.00	0.00	0.00
8H	4H	21.39	22.00	21.86	22.45	22.92	0.00	0.00	0.00	0.00	0.00
	6H	21.97	22.47	22.47	22.97	23.45	0.00	0.00	0.00	0.00	0.00
	8H	22.12	22.57	22.64	23.08	23.58	0.00	0.00	0.00	0.00	0.00
	12H	22.17	22.57	22.69	23.07	23.64	0.00	0.00	0.00	0.00	0.00
12H	4H	21.34	21.88	21.82	22.37	22.84	0.00	0.00	0.00	0.00	0.00
	6H	21.90	22.35	22.43	22.87	23.36	0.00	0.00	0.00	0.00	0.03
	8H	22.07	22.47	22.59	22.96	23.54	0.00	0.00	0.00	0.00	0.20