

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: P1055718

Luminaire Tested: S123R3DR-H1165D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055718  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D840-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

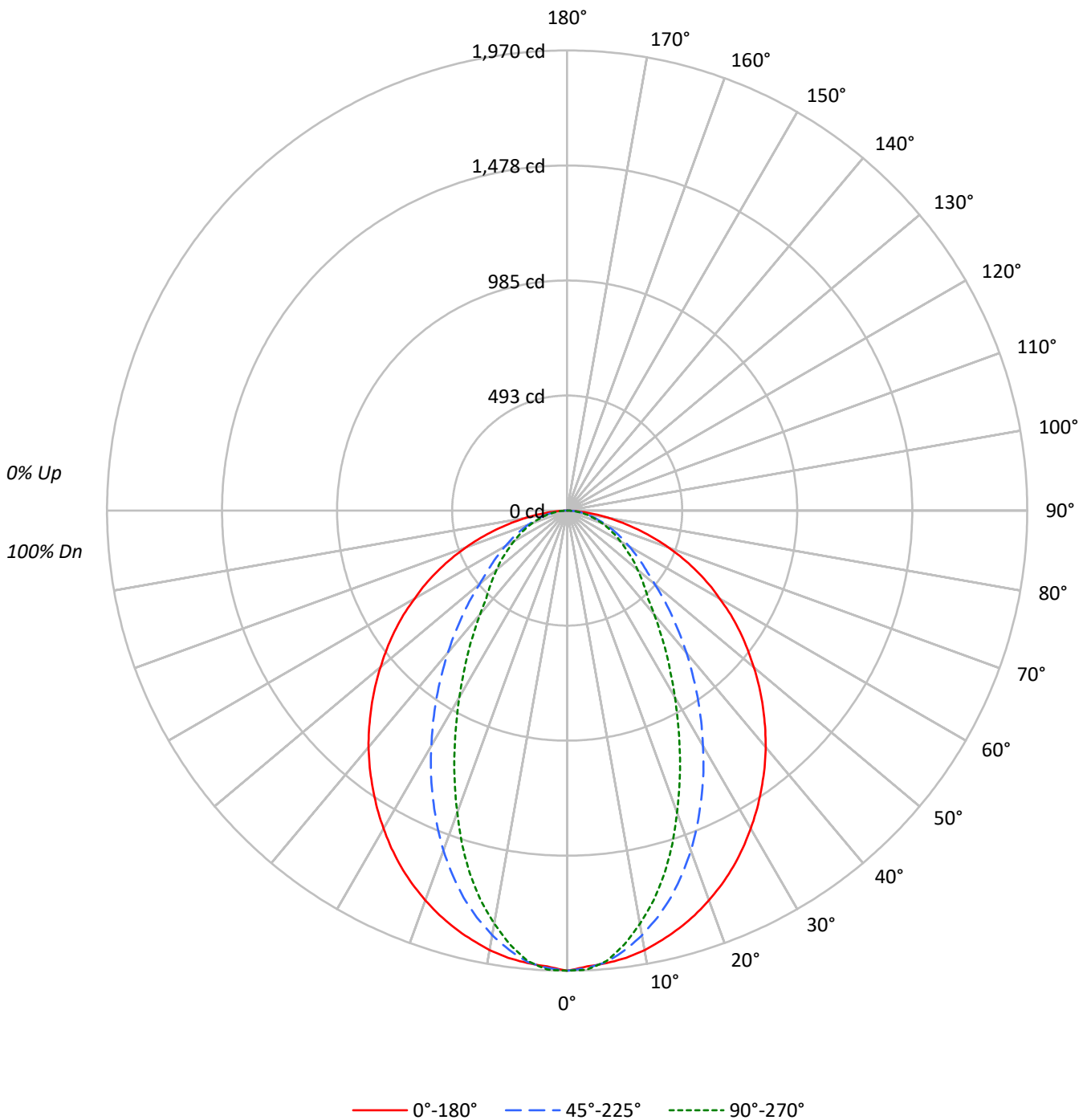
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3454.6 lumens  
Efficiency: N/A  
Efficacy: 94.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
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	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					100			
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	23749	23749	23749
5°	23536	23482	23429
10°	23393	22599	21986
15°	23115	21405	20081
20°	22777	19866	17654
25°	22382	18089	15189
30°	21885	16182	12840
35°	21359	14312	10841
40°	20822	12498	9113
45°	20196	10776	8038
50°	19565	9174	7379
55°	18983	8175	6812
60°	18188	7388	6359
65°	17442	6767	5968
70°	16254	6232	5608
75°	14548	5767	5282
80°	12477	5318	4909
85°	8770	4897	4689

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 20196 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	182.6	5.3
10°-20°	483.1	14.0
20°-30°	636.4	18.4
30°-40°	645.9	18.7
40°-50°	561.4	16.3
50°-60°	439.9	12.7
60°-70°	298.9	8.7
70°-80°	161.9	4.7
80°-90°	44.6	1.3
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°	1302.1	37.7
0°-40°	1948.0	56.4
0°-60°	2949.3	85.4
0°-90°	3454.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3454.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1970	1970	1970	1970	1970	
5°	1945	1968	1940	1923	1936	185
15°	1852	1825	1715	1631	1609	522
25°	1682	1581	1360	1190	1142	774
35°	1451	1279	972	787	737	908
45°	1184	950	632	488	471	914
55°	903	628	389	332	324	806
65°	611	339	237	212	209	604
75°	312	156	124	115	113	333
85°	63	38	35	32	34	80
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1969.8	1969.8	1969.8	1969.8	1969.8
2.5°	1953.6	1978.6	1959.5	1960.9	1966.8
5°	1944.7	1968.3	1940.3	1922.6	1935.9
7.5°	1931.5	1949.1	1897.6	1869.6	1874.0
10°	1910.8	1916.7	1846.0	1801.8	1795.9
12.5°	1882.8	1872.5	1784.1	1719.3	1709.0
15°	1851.9	1825.4	1714.9	1630.9	1608.8
17.5°	1816.5	1772.3	1633.9	1530.7	1496.8
20°	1775.3	1713.4	1548.4	1417.3	1376.0
22.5°	1731.1	1651.5	1455.6	1300.9	1258.2
25°	1682.5	1580.8	1359.8	1190.4	1141.8
27.5°	1629.4	1510.1	1262.6	1081.4	1026.9
30°	1572.0	1436.4	1162.4	975.3	922.3
32.5°	1513.1	1358.4	1066.7	876.6	825.0
35°	1451.2	1278.8	972.4	786.7	736.6
37.5°	1387.8	1197.8	881.0	701.3	654.1
40°	1323.0	1115.3	794.1	621.7	579.0
42.5°	1253.8	1032.8	710.1	546.6	514.2
45°	1184.5	950.3	632.0	487.7	471.4
47.5°	1115.3	866.3	558.4	446.4	431.7
50°	1043.1	785.3	489.1	408.1	393.4
52.5°	972.4	705.7	431.7	371.3	361.0
55°	903.1	627.6	388.9	331.5	324.1
57.5°	830.9	551.0	346.2	300.5	291.7
60°	754.3	477.3	306.4	268.1	263.7
62.5°	685.1	408.1	271.1	240.1	235.7
65°	611.4	338.9	237.2	212.2	209.2
67.5°	536.3	281.4	206.3	185.6	184.2
70°	461.1	237.2	176.8	160.6	159.1
72.5°	387.5	195.9	148.8	138.5	135.5
75°	312.3	156.2	123.8	114.9	113.4
77.5°	244.6	120.8	98.7	92.8	91.3
80°	179.7	89.9	76.6	72.2	70.7
82.5°	117.9	61.9	54.5	51.6	51.6
85°	63.4	38.3	35.4	32.4	33.9
87.5°	22.1	16.2	16.2	14.7	16.2
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	21.56	23.05	21.93	23.37	23.68	16.71	18.20	17.08	18.52	18.83
	3H	23.45	24.79	23.83	25.12	25.48	18.34	19.68	18.72	20.01	20.37
	4H	24.21	25.46	24.61	25.81	26.19	18.98	20.23	19.38	20.58	20.96
	6H	24.77	25.93	25.18	26.30	26.69	19.47	20.63	19.88	20.99	21.38
	8H	24.94	26.05	25.37	26.44	26.84	19.64	20.74	20.06	21.13	21.53
	12H	25.04	26.10	25.47	26.48	26.91	19.76	20.82	20.19	21.20	21.63
4H	2H	21.61	22.87	22.01	23.21	23.59	17.44	18.70	17.84	19.04	19.42
	3H	23.63	24.67	24.04	25.07	25.47	19.26	20.30	19.67	20.70	21.11
	4H	24.44	25.38	24.88	25.80	26.24	20.01	20.95	20.44	21.36	21.80
	6H	25.13	25.94	25.58	26.39	26.85	20.62	21.43	21.07	21.88	22.34
	8H	25.36	26.12	25.82	26.57	27.03	20.83	21.59	21.29	22.04	22.51
	12H	25.51	26.19	25.99	26.67	27.14	21.00	21.68	21.48	22.16	22.63
8H	4H	24.47	25.23	24.93	25.68	26.14	20.39	21.15	20.85	21.60	22.07
	6H	25.20	25.83	25.69	26.32	26.80	21.12	21.75	21.62	22.24	22.72
	8H	25.47	26.03	25.98	26.54	27.03	21.41	21.97	21.92	22.48	22.97
	12H	25.68	26.18	26.19	26.67	27.23	21.65	22.15	22.16	22.64	23.21
12H	4H	24.45	25.14	24.94	25.61	26.09	20.45	21.13	20.93	21.61	22.08
	6H	25.18	25.75	25.70	26.26	26.75	21.20	21.77	21.72	22.28	22.77
	8H	25.49	25.99	26.00	26.48	27.04	21.55	22.05	22.06	22.54	23.11