

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055727

Luminaire Tested: S123R3DR-H1165D930-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055727  
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-H1165D930-X4F0-XX-UDD-FLL-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

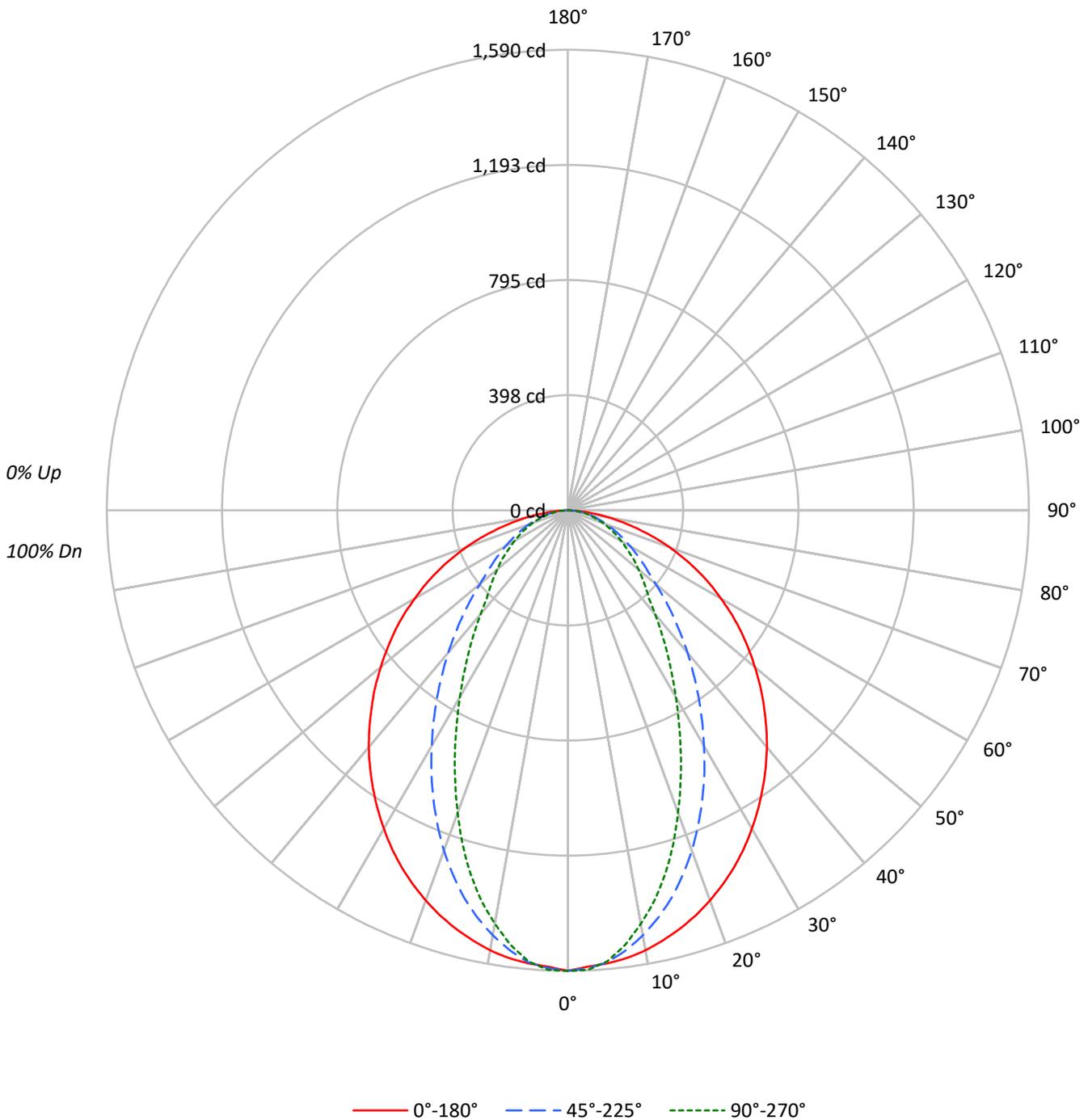
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2789.1 lumens  
Efficiency: N/A  
Efficacy: 76.2 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 (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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

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

	0°	45°	90°
0°	19173	19173	19173
5°	19001	18959	18915
10°	18886	18245	17750
15°	18661	17281	16212
20°	18389	16039	14253
25°	18069	14604	12262
30°	17668	13065	10366
35°	17244	11554	8753
40°	16810	10090	7356
45°	16305	8701	6489
50°	15795	7407	5957
55°	15325	6600	5501
60°	14685	5966	5134
65°	14081	5463	4818
70°	13124	5030	4530
75°	11748	4654	4267
80°	10074	4298	3964
85°	7069	3942	3790

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16305 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.4	5.3
10°-20°	390.0	14.0
20°-30°	513.8	18.4
30°-40°	521.5	18.7
40°-50°	453.3	16.3
50°-60°	355.1	12.7
60°-70°	241.3	8.7
70°-80°	130.7	4.7
80°-90°	36.0	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°	1051.2	37.7
0°-40°	1572.7	56.4
0°-60°	2381.0	85.4
0°-90°	2789.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2789.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1590	1590	1590	1590	1590	
5°	1570	1589	1566	1552	1563	149
15°	1495	1474	1384	1317	1299	421
25°	1358	1276	1098	961	922	625
35°	1172	1032	785	635	595	733
45°	956	767	510	394	381	738
55°	729	507	314	268	262	651
65°	494	274	192	171	169	487
75°	252	126	100	93	92	269
85°	51	31	28	26	27	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1590.3	1590.3	1590.3	1590.3	1590.3
2.5°	1577.2	1597.4	1581.9	1583.1	1587.9
5°	1570.0	1589.1	1566.5	1552.2	1562.9
7.5°	1559.3	1573.6	1532.0	1509.4	1512.9
10°	1542.7	1547.4	1490.3	1454.7	1449.9
12.5°	1520.1	1511.8	1440.4	1388.1	1379.7
15°	1495.1	1473.7	1384.5	1316.7	1298.9
17.5°	1466.6	1430.9	1319.1	1235.8	1208.5
20°	1433.3	1383.3	1250.1	1144.2	1110.9
22.5°	1397.6	1333.3	1175.2	1050.3	1015.8
25°	1358.3	1276.3	1097.8	961.1	921.8
27.5°	1315.5	1219.2	1019.3	873.0	829.0
30°	1269.1	1159.7	938.5	787.4	744.6
32.5°	1221.5	1096.6	861.1	707.7	666.1
35°	1171.6	1032.4	785.0	635.2	594.7
37.5°	1120.4	967.0	711.3	566.2	528.1
40°	1068.1	900.4	641.1	501.9	467.4
42.5°	1012.2	833.8	573.3	441.3	415.1
45°	956.3	767.2	510.3	393.7	380.6
47.5°	900.4	699.4	450.8	360.4	348.5
50°	842.1	634.0	394.9	329.5	317.6
52.5°	785.0	569.7	348.5	299.7	291.4
55°	729.1	506.7	314.0	267.6	261.7
57.5°	670.8	444.8	279.5	242.6	235.5
60°	609.0	385.4	247.4	216.5	212.9
62.5°	553.1	329.5	218.9	193.9	190.3
65°	493.6	273.6	191.5	171.3	168.9
67.5°	433.0	227.2	166.5	149.9	148.7
70°	372.3	191.5	142.7	129.6	128.5
72.5°	312.8	158.2	120.1	111.8	109.4
75°	252.2	126.1	99.9	92.8	91.6
77.5°	197.4	97.5	79.7	74.9	73.7
80°	145.1	72.6	61.9	58.3	57.1
82.5°	95.2	50.0	44.0	41.6	41.6
85°	51.1	30.9	28.5	26.2	27.4
87.5°	17.8	13.1	13.1	11.9	13.1
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	20.82	22.31	21.18	22.62	22.94	15.97	17.46	16.33	17.77	18.09
	3H	22.71	24.05	23.08	24.37	24.74	17.60	18.93	17.97	19.26	19.63
	4H	23.46	24.72	23.86	25.07	25.45	18.23	19.49	18.63	19.84	20.22
	6H	24.03	25.19	24.44	25.55	25.95	18.72	19.88	19.13	20.25	20.64
	8H	24.20	25.30	24.63	25.69	26.10	18.89	20.00	19.32	20.39	20.79
	12H	24.30	25.35	24.73	25.74	26.17	19.02	20.07	19.45	20.46	20.89
4H	2H	20.87	22.12	21.27	22.47	22.85	16.70	17.95	17.10	18.30	18.68
	3H	22.88	23.93	23.29	24.33	24.73	18.52	19.56	18.93	19.96	20.36
	4H	23.70	24.64	24.13	25.06	25.49	19.26	20.20	19.70	20.62	21.06
	6H	24.38	25.20	24.84	25.64	26.10	19.87	20.69	20.33	21.13	21.59
	8H	24.61	25.38	25.08	25.82	26.29	20.09	20.85	20.55	21.30	21.76
	12H	24.77	25.45	25.25	25.93	26.40	20.26	20.94	20.74	21.42	21.89
8H	4H	23.72	24.49	24.19	24.93	25.40	19.65	20.41	20.11	20.86	21.32
	6H	24.45	25.08	24.95	25.58	26.05	20.38	21.01	20.87	21.50	21.98
	8H	24.72	25.29	25.24	25.80	26.29	20.66	21.23	21.18	21.74	22.23
	12H	24.93	25.43	25.44	25.92	26.49	20.91	21.41	21.42	21.90	22.47
12H	4H	23.71	24.39	24.19	24.87	25.34	19.70	20.38	20.18	20.86	21.33
	6H	24.44	25.00	24.95	25.51	26.00	20.46	21.02	20.97	21.53	22.02
	8H	24.74	25.24	25.25	25.74	26.30	20.81	21.30	21.32	21.80	22.36