

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: P1055598

Luminaire Tested: S123R3DR-S1165D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055598
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-S1165D940-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

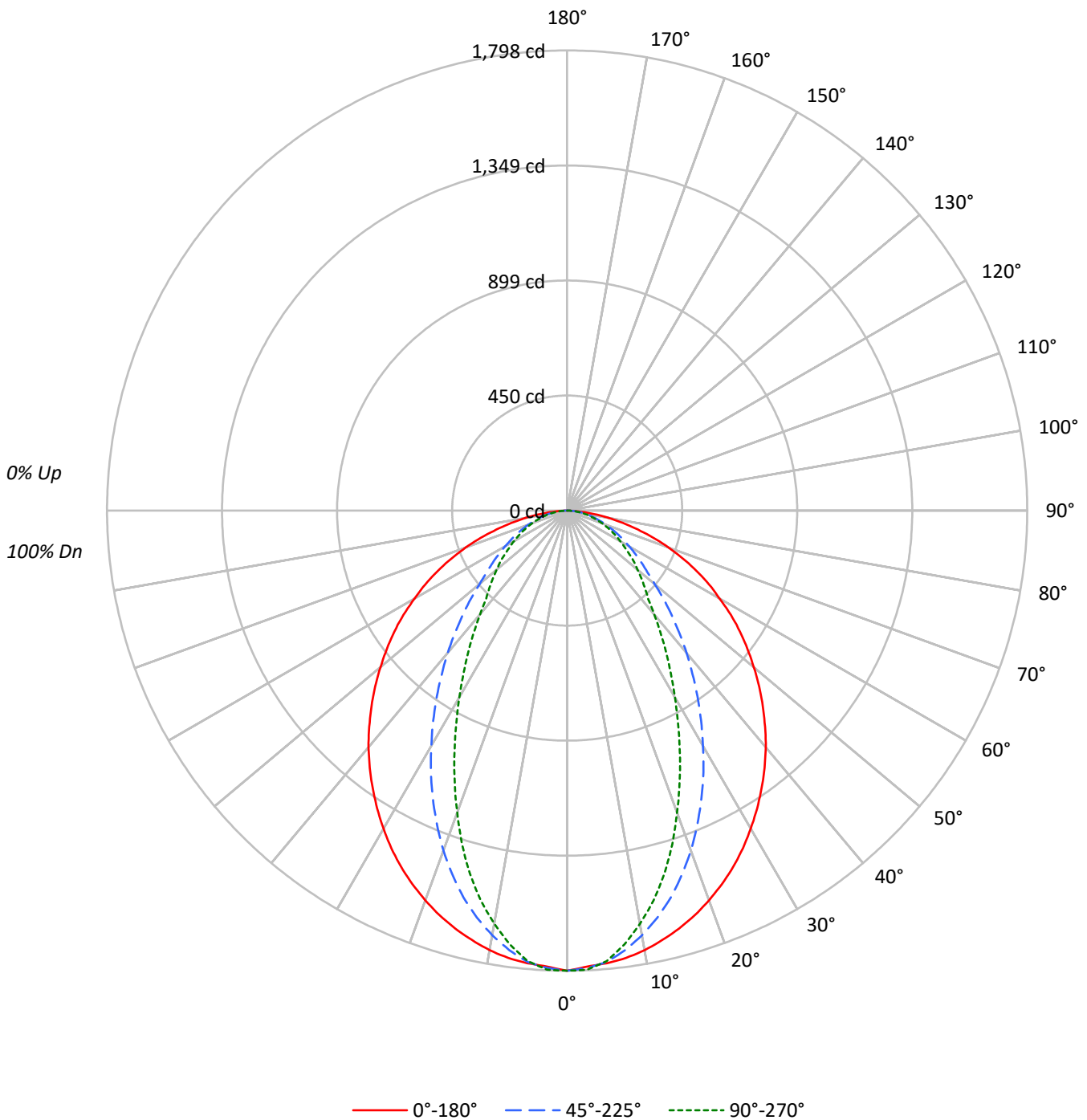
Lumens per Lamp: N/A
Luminaire Lumens: 3153.5 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
Input Voltage (V): 120
Input Current (A_{in}): 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																		
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	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°	21677	21677	21677
5°	21484	21435	21386
10°	21354	20630	20070
15°	21100	19539	18331
20°	20791	18134	16116
25°	20430	16513	13864
30°	19976	14772	11721
35°	19497	13064	9896
40°	19007	11409	8318
45°	18435	9836	7337
50°	17858	8375	6735
55°	17329	7462	6220
60°	16604	6744	5804
65°	15921	6176	5449
70°	14837	5689	5118
75°	13281	5264	4826
80°	11393	4853	4485
85°	7996	4468	4274

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 18435 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.7	5.3
10°-20°	441.0	14.0
20°-30°	580.9	18.4
30°-40°	589.6	18.7
40°-50°	512.5	16.3
50°-60°	401.5	12.7
60°-70°	272.8	8.7
70°-80°	147.8	4.7
80°-90°	40.7	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°	1188.5	37.7
0°-40°	1778.1	56.4
0°-60°	2692.1	85.4
0°-90°	3153.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3153.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1798	1798	1798	1798	1798	
5°	1775	1797	1771	1755	1767	169
15°	1690	1666	1565	1489	1469	477
25°	1536	1443	1241	1087	1042	707
35°	1325	1167	888	718	672	829
45°	1081	867	577	445	430	834
55°	824	573	355	303	296	736
65°	558	309	216	194	191	551
75°	285	143	113	105	104	304
85°	58	35	32	30	31	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1798.0	1798.0	1798.0	1798.0	1798.0
2.5°	1783.3	1806.1	1788.6	1790.0	1795.4
5°	1775.2	1796.7	1771.1	1755.0	1767.1
7.5°	1763.1	1779.2	1732.1	1706.6	1710.6
10°	1744.3	1749.6	1685.1	1644.7	1639.4
12.5°	1718.7	1709.3	1628.6	1569.4	1560.0
15°	1690.5	1666.3	1565.4	1488.7	1468.6
17.5°	1658.2	1617.8	1491.4	1397.3	1366.4
20°	1620.5	1564.0	1413.4	1293.7	1256.1
22.5°	1580.2	1507.6	1328.7	1187.5	1148.5
25°	1535.8	1443.0	1241.3	1086.6	1042.2
27.5°	1487.4	1378.5	1152.5	987.1	937.3
30°	1434.9	1311.2	1061.1	890.3	841.9
32.5°	1381.1	1239.9	973.7	800.2	753.1
35°	1324.7	1167.3	887.6	718.1	672.4
37.5°	1266.8	1093.4	804.2	640.1	597.1
40°	1207.7	1018.0	724.9	567.5	528.5
42.5°	1144.5	942.7	648.2	498.9	469.3
45°	1081.2	867.4	576.9	445.1	430.3
47.5°	1018.0	790.8	509.7	407.5	394.0
50°	952.1	716.8	446.5	372.5	359.1
52.5°	887.6	644.2	394.0	338.9	329.5
55°	824.4	572.9	355.0	302.6	295.9
57.5°	758.5	503.0	316.0	274.3	266.3
60°	688.6	435.7	279.7	244.8	240.7
62.5°	625.3	372.5	247.4	219.2	215.2
65°	558.1	309.3	216.5	193.7	191.0
67.5°	489.5	256.9	188.3	169.4	168.1
70°	420.9	216.5	161.4	146.6	145.2
72.5°	353.7	178.9	135.8	126.4	123.7
75°	285.1	142.6	113.0	104.9	103.6
77.5°	223.2	110.3	90.1	84.7	83.4
80°	164.1	82.0	69.9	65.9	64.6
82.5°	107.6	56.5	49.8	47.1	47.1
85°	57.8	35.0	32.3	29.6	30.9
87.5°	20.2	14.8	14.8	13.4	14.8
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	21.25	22.74	21.61	23.05	23.37	16.39	17.89	16.76	18.20	18.51
	3H	23.13	24.47	23.51	24.80	25.16	18.02	19.36	18.40	19.69	20.05
	4H	23.89	25.15	24.29	25.49	25.87	18.66	19.91	19.06	20.26	20.64
	6H	24.45	25.61	24.87	25.98	26.37	19.15	20.31	19.56	20.68	21.07
	8H	24.63	25.73	25.05	26.12	26.52	19.32	20.42	19.75	20.81	21.22
	12H	24.72	25.78	25.15	26.16	26.59	19.44	20.50	19.87	20.88	21.31
4H	2H	21.29	22.55	21.69	22.90	23.28	17.12	18.38	17.52	18.73	19.11
	3H	23.31	24.35	23.72	24.75	25.15	18.94	19.99	19.35	20.39	20.79
	4H	24.13	25.07	24.56	25.48	25.92	19.69	20.63	20.12	21.05	21.49
	6H	24.81	25.63	25.27	26.07	26.53	20.30	21.12	20.76	21.56	22.02
	8H	25.04	25.80	25.50	26.25	26.72	20.51	21.28	20.98	21.72	22.19
	12H	25.19	25.87	25.67	26.35	26.82	20.68	21.36	21.17	21.84	22.31
8H	4H	24.15	24.92	24.62	25.36	25.83	20.07	20.84	20.54	21.28	21.75
	6H	24.88	25.51	25.38	26.00	26.48	20.80	21.43	21.30	21.93	22.40
	8H	25.15	25.72	25.66	26.23	26.71	21.09	21.66	21.61	22.17	22.66
	12H	25.36	25.86	25.87	26.35	26.92	21.34	21.83	21.85	22.33	22.89
12H	4H	24.14	24.82	24.62	25.30	25.77	20.13	20.81	20.61	21.29	21.76
	6H	24.86	25.43	25.38	25.94	26.43	20.88	21.45	21.40	21.96	22.45
	8H	25.17	25.67	25.68	26.16	26.73	21.23	21.73	21.74	22.22	22.79