

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: P1055799

Luminaire Tested: S123R3DR-H775D840-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055799  
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-H775D840-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: -

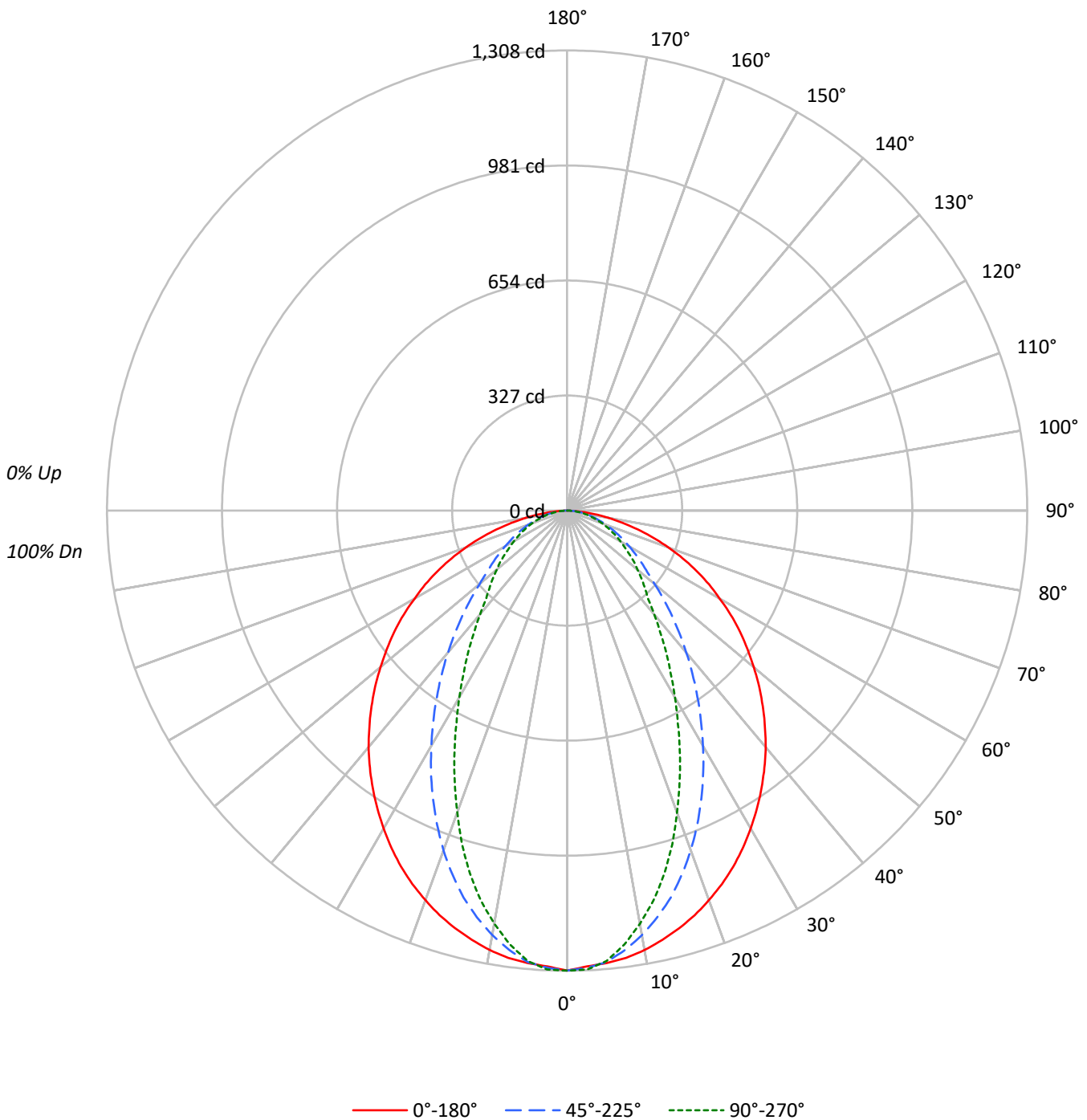
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2293.1 lumens  
Efficiency: N/A  
Efficacy: 96.3 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): 23.8  
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	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°	15764	15764	15764
5°	15623	15587	15552
10°	15528	15001	14594
15°	15343	14208	13329
20°	15119	13187	11719
25°	14857	12007	10082
30°	14526	10742	8523
35°	14178	9499	7197
40°	13822	8296	6048
45°	13407	7153	5335
50°	12987	6090	4897
55°	12601	5427	4521
60°	12073	4905	4220
65°	11577	4490	3963
70°	10790	4138	3722
75°	9657	3824	3508
80°	8283	3534	3256
85°	5824	3251	3112

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13407 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.2	5.3
10°-20°	320.7	14.0
20°-30°	422.4	18.4
30°-40°	428.7	18.7
40°-50°	372.7	16.3
50°-60°	292.0	12.7
60°-70°	198.4	8.7
70°-80°	107.5	4.7
80°-90°	29.6	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°	864.3	37.7
0°-40°	1293.0	56.4
0°-60°	1957.6	85.4
0°-90°	2293.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2293.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1291	1306	1288	1276	1285	123
15°	1229	1212	1138	1083	1068	347
25°	1117	1049	903	790	758	514
35°	963	849	645	522	489	603
45°	786	631	420	324	313	607
55°	600	417	258	220	215	535
65°	406	225	157	141	139	401
75°	207	104	82	76	75	221
85°	42	25	24	22	22	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1296.7	1313.4	1300.6	1301.6	1305.5
5°	1290.9	1306.5	1287.9	1276.2	1285.0
7.5°	1282.1	1293.8	1259.6	1241.0	1243.9
10°	1268.4	1272.3	1225.3	1196.0	1192.1
12.5°	1249.8	1242.9	1184.3	1141.2	1134.4
15°	1229.2	1211.6	1138.3	1082.6	1067.9
17.5°	1205.8	1176.4	1084.5	1016.1	993.6
20°	1178.4	1137.3	1027.8	940.8	913.4
22.5°	1149.1	1096.3	966.2	863.5	835.1
25°	1116.8	1049.3	902.6	790.2	757.9
27.5°	1081.6	1002.4	838.1	717.8	681.6
30°	1043.4	953.5	771.6	647.4	612.2
32.5°	1004.3	901.6	708.0	581.9	547.6
35°	963.3	848.8	645.4	522.2	489.0
37.5°	921.2	795.1	584.8	465.5	434.2
40°	878.2	740.3	527.1	412.7	384.3
42.5°	832.2	685.5	471.4	362.8	341.3
45°	786.3	630.8	419.5	323.7	312.9
47.5°	740.3	575.0	370.6	296.3	286.5
50°	692.4	521.2	324.7	270.9	261.1
52.5°	645.4	468.4	286.5	246.4	239.6
55°	599.5	416.6	258.2	220.0	215.1
57.5°	551.5	365.7	229.8	199.5	193.6
60°	500.7	316.8	203.4	178.0	175.0
62.5°	454.7	270.9	179.9	159.4	156.5
65°	405.8	224.9	157.4	140.8	138.9
67.5°	356.0	186.8	136.9	123.2	122.2
70°	306.1	157.4	117.4	106.6	105.6
72.5°	257.2	130.1	98.8	91.9	90.0
75°	207.3	103.7	82.1	76.3	75.3
77.5°	162.3	80.2	65.5	61.6	60.6
80°	119.3	59.7	50.9	47.9	46.9
82.5°	78.2	41.1	36.2	34.2	34.2
85°	42.1	25.4	23.5	21.5	22.5
87.5°	14.7	10.8	10.8	9.8	10.8
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	20.14	21.63	20.50	21.94	22.26	15.29	16.78	15.65	17.09	17.41
	3H	22.03	23.36	22.40	23.69	24.05	16.92	18.25	17.29	18.58	18.94
	4H	22.78	24.04	23.18	24.39	24.77	17.55	18.81	17.95	19.16	19.54
	6H	23.35	24.51	23.76	24.87	25.27	18.04	19.20	18.45	19.57	19.96
	8H	23.52	24.62	23.95	25.01	25.41	18.21	19.32	18.64	19.71	20.11
	12H	23.62	24.67	24.05	25.06	25.48	18.34	19.39	18.77	19.78	20.20
4H	2H	20.18	21.44	20.58	21.79	22.17	16.02	17.27	16.42	17.62	18.00
	3H	22.20	23.25	22.61	23.65	24.05	17.84	18.88	18.25	19.28	19.68
	4H	23.02	23.96	23.45	24.38	24.81	18.58	19.52	19.02	19.94	20.38
	6H	23.70	24.52	24.16	24.96	25.42	19.19	20.01	19.65	20.45	20.91
	8H	23.93	24.70	24.40	25.14	25.61	19.41	20.17	19.87	20.61	21.08
	12H	24.09	24.77	24.57	25.25	25.72	19.57	20.26	20.06	20.74	21.21
8H	4H	23.04	23.81	23.51	24.25	24.72	18.97	19.73	19.43	20.17	20.64
	6H	23.77	24.40	24.27	24.90	25.37	19.70	20.33	20.19	20.82	21.30
	8H	24.04	24.61	24.56	25.12	25.61	19.98	20.55	20.50	21.06	21.55
	12H	24.25	24.75	24.76	25.24	25.81	20.23	20.73	20.74	21.22	21.78
12H	4H	23.03	23.71	23.51	24.19	24.66	19.02	19.70	19.50	20.18	20.65
	6H	23.76	24.32	24.27	24.83	25.32	19.78	20.34	20.29	20.85	21.34
	8H	24.06	24.56	24.57	25.06	25.62	20.12	20.62	20.63	21.12	21.68