

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: P1439797

Luminaire Tested: S123DR-H865D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1439797  
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/2/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-H865D835-X4F0-XX-UDD-FLB-W  
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

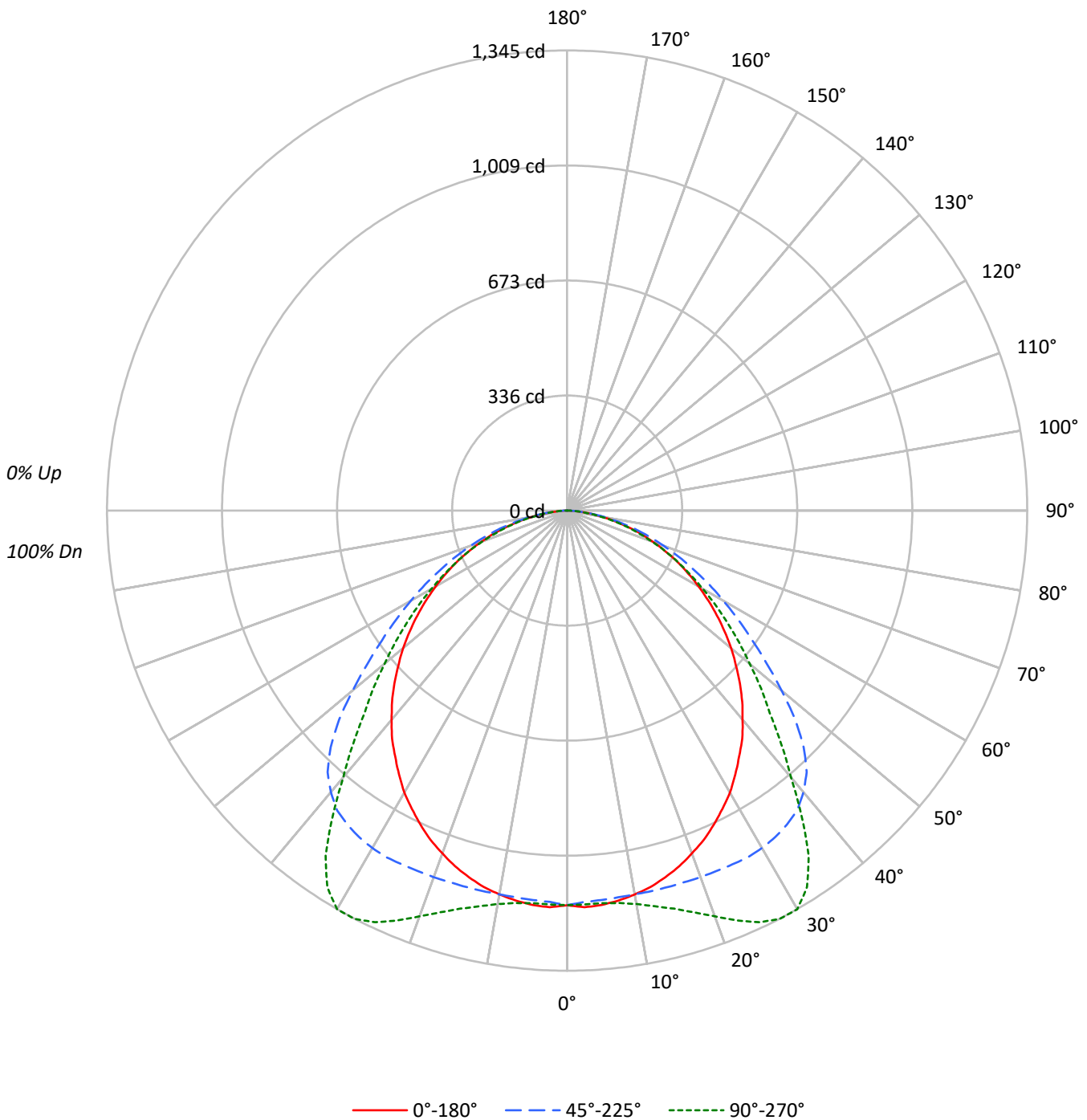
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3488.4 lumens  
Efficiency: N/A  
Efficacy: 112.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.9  
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	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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

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

	0°	45°	90°
0°	13905	13905	13905
5°	14001	13828	13943
10°	13944	13944	14294
15°	13845	14217	15035
20°	13681	14629	16190
25°	13486	15184	17659
30°	13251	15857	18730
35°	12902	16483	18117
40°	12558	16913	16031
45°	12181	16675	14276
50°	11745	15347	13064
55°	11231	13890	12009
60°	10699	12712	11044
65°	10173	11637	10207
70°	9419	10554	9250
75°	8501	9391	8278
80°	7124	7866	6790
85°	5450	5768	5118

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 16675 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.8	3.1
10°-20°	326.3	9.4
20°-30°	534.8	15.3
30°-40°	676.5	19.4
40°-50°	661.0	18.9
50°-60°	543.0	15.6
60°-70°	383.0	11.0
70°-80°	204.2	5.9
80°-90°	49.8	1.4
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°	971.0	27.8
0°-40°	1647.5	47.2
0°-60°	2851.5	81.7
0°-90°	3488.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3488.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1153	1153	1153	1153	1153	
5°	1157	1152	1143	1154	1152	110
15°	1109	1115	1139	1190	1205	313
25°	1014	1044	1141	1280	1328	467
35°	877	938	1120	1250	1231	549
45°	714	796	978	883	837	551
55°	534	614	661	594	571	478
65°	357	408	408	372	358	352
75°	182	205	202	182	178	194
85°	39	43	42	38	37	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1153.3	1153.3	1153.3	1153.3	1153.3
2.5°	1160.5	1156.9	1145.0	1155.7	1152.1
5°	1156.9	1152.1	1142.6	1154.5	1152.1
7.5°	1149.8	1147.4	1140.2	1158.1	1156.9
10°	1139.0	1137.8	1139.0	1165.3	1167.6
12.5°	1127.1	1128.3	1139.0	1176.0	1184.3
15°	1109.2	1115.2	1139.0	1190.3	1204.6
17.5°	1090.1	1099.7	1139.0	1209.4	1230.9
20°	1066.3	1083.0	1140.2	1229.7	1261.9
22.5°	1042.4	1062.7	1140.2	1257.1	1296.5
25°	1013.8	1043.6	1141.4	1279.8	1327.5
27.5°	982.8	1018.6	1142.6	1297.7	1345.4
30°	951.8	994.7	1139.0	1304.8	1345.4
32.5°	914.8	967.3	1131.9	1292.9	1304.8
35°	876.6	937.5	1119.9	1249.9	1230.9
37.5°	840.9	905.3	1104.4	1171.2	1125.9
40°	797.9	870.7	1074.6	1071.0	1018.6
42.5°	757.4	833.7	1036.5	969.7	926.7
45°	714.4	795.5	978.0	882.6	837.3
47.5°	669.1	753.8	904.1	800.3	768.1
50°	626.2	710.8	818.2	725.2	696.5
52.5°	579.7	665.5	735.9	658.4	633.3
55°	534.3	614.2	660.8	594.0	571.3
57.5°	489.0	564.1	591.6	533.1	515.2
60°	443.7	511.7	527.2	477.1	458.0
62.5°	399.6	462.8	467.5	423.4	406.7
65°	356.6	407.9	407.9	372.1	357.8
67.5°	311.3	355.4	353.0	319.6	311.3
70°	267.2	304.1	299.4	271.9	262.4
72.5°	225.4	252.9	249.3	227.8	217.1
75°	182.5	205.1	201.6	182.5	177.7
77.5°	141.9	157.4	153.9	140.7	137.2
80°	102.6	114.5	113.3	103.8	97.8
82.5°	69.2	75.1	73.9	68.0	64.4
85°	39.4	42.9	41.7	38.2	37.0
87.5°	15.5	17.9	19.1	17.9	16.7
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	20.78	22.39	21.15	22.70	23.02	20.51	22.12	20.88	22.43	22.74
	3H	22.35	23.80	22.73	24.13	24.49	22.03	23.47	22.40	23.80	24.16
	4H	22.90	24.26	23.30	24.61	24.99	22.56	23.92	22.96	24.27	24.64
	6H	23.27	24.53	23.68	24.89	25.28	22.92	24.18	23.33	24.54	24.93
	8H	23.37	24.57	23.79	24.96	25.36	23.01	24.21	23.44	24.60	25.00
	12H	23.42	24.57	23.85	24.96	25.38	23.06	24.21	23.49	24.60	25.03
4H	2H	21.42	22.78	21.82	23.13	23.51	21.21	22.57	21.61	22.92	23.29
	3H	23.23	24.36	23.64	24.76	25.16	22.92	24.06	23.33	24.46	24.86
	4H	23.92	24.94	24.35	25.36	25.79	23.56	24.59	23.99	25.00	25.44
	6H	24.40	25.29	24.85	25.73	26.19	24.02	24.91	24.48	25.36	25.81
	8H	24.53	25.37	24.99	25.81	26.28	24.15	24.98	24.61	25.43	25.89
	12H	24.62	25.37	25.10	25.84	26.31	24.23	24.98	24.71	25.45	25.92
8H	4H	24.18	25.02	24.64	25.46	25.93	23.87	24.70	24.33	25.15	25.61
	6H	24.77	25.47	25.27	25.95	26.43	24.43	25.12	24.92	25.61	26.09
	8H	24.97	25.59	25.48	26.10	26.58	24.61	25.23	25.12	25.74	26.22
	12H	25.11	25.66	25.61	26.15	26.71	24.74	25.29	25.25	25.78	26.34
12H	4H	24.20	24.95	24.68	25.42	25.89	23.90	24.64	24.38	25.12	25.59
	6H	24.80	25.43	25.32	25.93	26.42	24.47	25.10	24.98	25.60	26.09
	8H	25.05	25.60	25.56	26.09	26.65	24.70	25.25	25.21	25.74	26.31