

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: P243309

Luminaire Tested: S123DRP-H1000D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243309  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-H1000D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

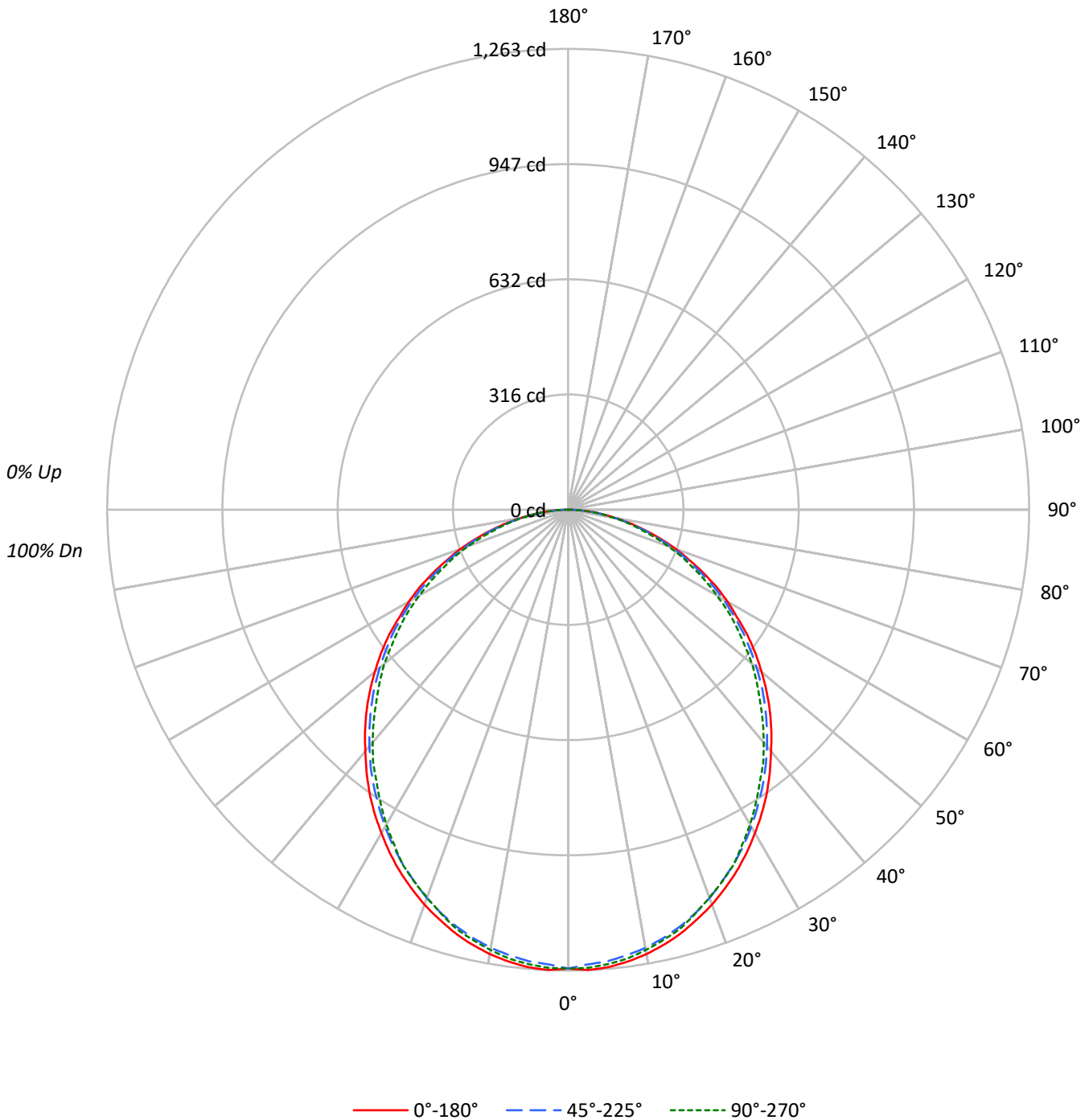
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3326.8 lumens  
Efficiency: N/A  
Efficacy: 105.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	15244	15244	15244
5°	15314	15112	15213
10°	15223	15006	15082
15°	15065	14844	14909
20°	14857	14603	14590
25°	14614	14337	14351
30°	14322	14047	13945
35°	14037	13730	13531
40°	13681	13402	13189
45°	13400	13079	12742
50°	13040	12708	12395
55°	12663	12335	11919
60°	12216	11888	11411
65°	11685	11329	10853
70°	11096	10728	10288
75°	10294	10003	9470
80°	9263	9047	8753
85°	8650	8219	7927

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13400 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.6	3.6
10°-20°	335.5	10.1
20°-30°	496.7	14.9
30°-40°	582.6	17.5
40°-50°	588.9	17.7
50°-60°	520.9	15.7
60°-70°	391.2	11.8
70°-80°	225.5	6.8
80°-90°	66.9	2.0
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°	950.9	28.6
0°-40°	1533.4	46.1
0°-60°	2643.2	79.5
0°-90°	3326.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3326.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1258	1258	1258	1258	1258	
5°	1259	1253	1242	1252	1250	119
15°	1200	1194	1183	1191	1188	338
25°	1093	1084	1072	1077	1073	503
35°	949	940	928	925	914	593
45°	782	776	763	753	743	602
55°	599	595	584	572	564	535
65°	407	404	395	385	378	404
75°	220	218	214	207	202	233
85°	62	61	59	58	57	70
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1257.6	1257.6	1257.6	1257.6	1257.6
2.5°	1262.7	1258.6	1247.2	1258.6	1256.5
5°	1258.6	1253.4	1242.0	1252.4	1250.3
7.5°	1249.3	1244.1	1231.6	1243.0	1241.0
10°	1236.8	1231.6	1219.2	1228.5	1225.4
12.5°	1220.2	1215.0	1202.6	1209.9	1207.8
15°	1200.5	1194.3	1182.9	1191.2	1188.1
17.5°	1176.7	1171.5	1159.1	1169.4	1160.1
20°	1151.8	1146.6	1132.1	1141.4	1131.1
22.5°	1122.8	1116.6	1102.0	1108.3	1103.1
25°	1092.7	1084.4	1072.0	1077.2	1073.0
27.5°	1059.5	1051.2	1038.8	1040.9	1033.6
30°	1023.3	1016.0	1003.6	1005.6	996.3
32.5°	987.0	980.7	965.2	965.2	955.9
35°	948.6	940.3	927.9	924.8	914.4
37.5°	907.1	899.9	888.5	883.3	877.1
40°	864.6	860.5	847.0	840.8	833.5
42.5°	824.2	816.9	805.5	797.2	789.0
45°	781.7	775.5	763.0	752.7	743.3
47.5°	737.1	731.9	719.5	708.1	700.8
50°	691.5	687.4	673.9	661.4	657.3
52.5°	646.9	641.7	628.3	616.9	608.6
55°	599.2	595.1	583.7	572.3	564.0
57.5°	548.4	548.4	536.0	525.6	519.4
60°	503.9	498.7	490.4	479.0	470.7
62.5°	457.2	454.1	442.7	431.3	425.1
65°	407.4	404.3	395.0	384.6	378.4
67.5°	358.7	357.7	349.4	341.1	336.9
70°	313.1	311.0	302.7	294.4	290.3
72.5°	266.4	264.4	257.1	249.9	244.7
75°	219.8	217.7	213.6	207.3	202.2
77.5°	174.2	174.2	169.0	166.9	164.8
80°	132.7	131.7	129.6	127.5	125.4
82.5°	95.4	94.3	92.3	91.2	91.2
85°	62.2	61.2	59.1	58.1	57.0
87.5°	32.1	30.1	29.0	27.0	25.9
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	20.91	22.54	21.28	22.85	23.17	20.60	22.23	20.97	22.54	22.86
	3H	22.71	24.18	23.09	24.51	24.87	22.36	23.83	22.74	24.16	24.52
	4H	23.39	24.77	23.79	25.12	25.50	23.01	24.39	23.41	24.74	25.12
	6H	23.89	25.17	24.30	25.54	25.93	23.51	24.79	23.92	25.16	25.55
	8H	24.05	25.28	24.48	25.67	26.07	23.68	24.91	24.10	25.30	25.69
	12H	24.18	25.35	24.61	25.74	26.16	23.80	24.98	24.23	25.36	25.79
4H	2H	21.51	22.89	21.90	23.24	23.61	21.26	22.65	21.66	22.99	23.37
	3H	23.53	24.69	23.94	25.09	25.49	23.24	24.40	23.64	24.79	25.19
	4H	24.34	25.39	24.77	25.81	26.24	24.01	25.07	24.45	25.48	25.91
	6H	24.97	25.89	25.43	26.33	26.79	24.64	25.56	25.10	26.00	26.46
	8H	25.19	26.05	25.65	26.49	26.96	24.86	25.72	25.32	26.17	26.63
	12H	25.36	26.14	25.84	26.61	27.08	25.03	25.81	25.51	26.28	26.75
8H	4H	24.64	25.50	25.10	25.94	26.40	24.35	25.21	24.81	25.65	26.12
	6H	25.39	26.11	25.88	26.59	27.07	25.10	25.82	25.60	26.31	26.78
	8H	25.69	26.33	26.20	26.84	27.32	25.40	26.04	25.91	26.55	27.04
	12H	25.95	26.51	26.45	27.00	27.56	25.65	26.22	26.16	26.71	27.27
12H	4H	24.67	25.44	25.15	25.92	26.38	24.39	25.16	24.87	25.64	26.11
	6H	25.44	26.09	25.95	26.60	27.08	25.17	25.81	25.68	26.32	26.80
	8H	25.80	26.37	26.31	26.86	27.42	25.53	26.10	26.03	26.59	27.15