

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: P242426

Luminaire Tested: S123DRP-S1165D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242426  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S1165D927-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

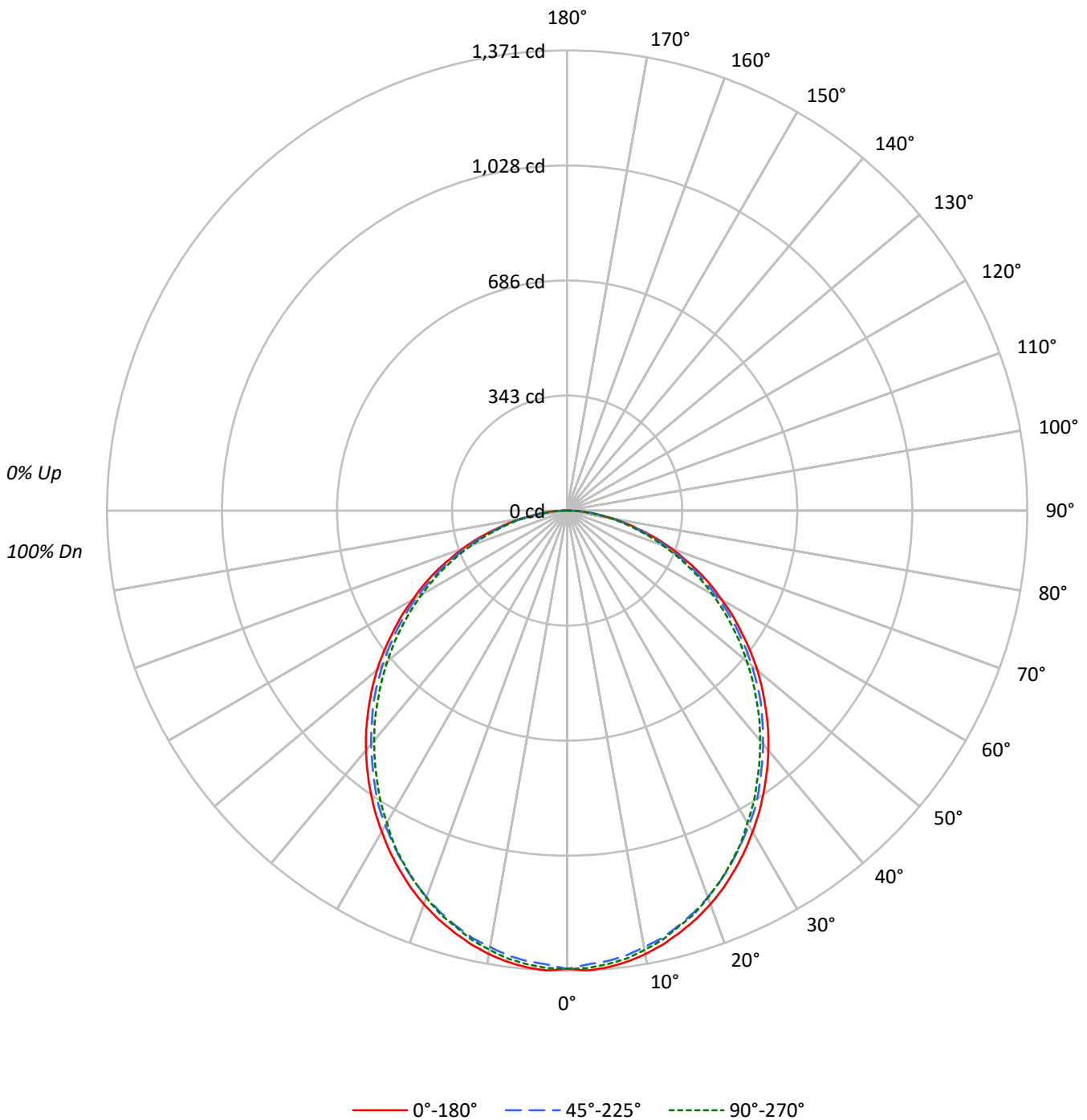
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3553.6 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.1  
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	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	16550	16550	16550
5°	16628	16399	16514
10°	16518	16257	16359
15°	16325	16074	16104
20°	16098	15810	15826
25°	15796	15498	15467
30°	15463	15151	15036
35°	15114	14784	14593
40°	14750	14378	14155
45°	14350	14008	13666
50°	13949	13549	13174
55°	13423	13075	12680
60°	12895	12524	12126
65°	12425	11920	11550
70°	11734	11235	10735
75°	10720	10336	9896
80°	9668	9263	9179
85°	8498	8164	7844

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14350 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.7	3.6
10°-20°	363.5	10.2
20°-30°	536.8	15.1
30°-40°	626.9	17.6
40°-50°	630.3	17.7
50°-60°	553.7	15.6
60°-70°	412.3	11.6
70°-80°	234.7	6.6
80°-90°	66.7	1.9
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°	1029.0	29.0
0°-40°	1656.0	46.6
0°-60°	2839.9	79.9
0°-90°	3553.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3553.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1365	1365	1365	1365	1365	
5°	1367	1361	1348	1360	1357	130
15°	1301	1296	1281	1290	1283	367
25°	1181	1174	1159	1160	1156	544
35°	1021	1014	999	992	986	639
45°	837	832	817	803	797	646
55°	635	634	619	606	600	569
65°	433	427	416	406	403	427
75°	229	224	221	215	211	245
85°	61	59	59	56	56	70
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1365.4	1365.4	1365.4	1365.4	1365.4
2.5°	1371.3	1366.6	1353.7	1365.4	1364.3
5°	1366.6	1360.8	1347.8	1359.6	1357.2
7.5°	1356.1	1350.2	1337.3	1347.8	1346.7
10°	1342.0	1336.1	1320.8	1331.4	1329.1
12.5°	1323.2	1318.5	1304.4	1311.4	1310.3
15°	1300.9	1296.2	1280.9	1290.3	1283.3
17.5°	1276.2	1270.3	1255.1	1262.1	1259.8
20°	1248.0	1241.0	1225.7	1230.4	1226.9
22.5°	1216.3	1209.3	1194.0	1197.6	1192.9
25°	1181.1	1174.1	1158.8	1160.0	1156.5
27.5°	1144.7	1137.7	1121.2	1122.4	1118.9
30°	1104.8	1098.9	1082.5	1082.5	1074.3
32.5°	1064.9	1056.7	1044.9	1036.7	1033.2
35°	1021.4	1014.4	999.1	992.1	986.2
37.5°	978.0	968.6	953.3	945.1	941.6
40°	932.2	925.2	908.7	899.3	894.6
42.5°	886.4	878.2	861.8	852.4	847.7
45°	837.1	832.4	817.2	803.1	797.2
47.5°	789.0	781.9	767.8	753.8	749.1
50°	739.7	733.8	718.5	705.6	698.6
52.5°	688.0	684.5	668.0	657.5	650.4
55°	635.2	634.0	618.7	605.8	600.0
57.5°	585.9	581.2	569.4	557.7	550.6
60°	531.9	530.7	516.6	506.0	500.2
62.5°	483.7	480.2	466.1	455.5	452.0
65°	433.2	427.4	415.6	406.2	402.7
67.5°	379.2	374.5	365.1	356.9	352.2
70°	331.1	324.0	317.0	308.8	302.9
72.5°	280.6	275.9	267.7	260.6	258.3
75°	228.9	224.2	220.7	214.9	211.3
77.5°	183.2	180.8	176.1	171.4	171.4
80°	138.5	135.0	132.7	131.5	131.5
82.5°	95.1	95.1	95.1	92.8	91.6
85°	61.1	58.7	58.7	56.4	56.4
87.5°	30.5	27.0	25.8	24.7	24.7
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	21.11	22.73	21.47	23.04	23.36	20.79	22.41	21.16	22.73	23.04
	3H	22.88	24.34	23.26	24.67	25.03	22.51	23.97	22.89	24.30	24.66
	4H	23.54	24.91	23.93	25.26	25.64	23.15	24.52	23.55	24.87	25.25
	6H	24.02	25.30	24.44	25.67	26.06	23.63	24.91	24.04	25.27	25.67
	8H	24.18	25.40	24.60	25.78	26.18	23.79	25.01	24.22	25.40	25.80
	12H	24.28	25.45	24.71	25.83	26.26	23.90	25.07	24.33	25.45	25.88
4H	2H	21.69	23.06	22.09	23.41	23.79	21.44	22.81	21.84	23.16	23.54
	3H	23.68	24.83	24.09	25.23	25.63	23.37	24.53	23.78	24.93	25.33
	4H	24.46	25.51	24.90	25.92	26.36	24.14	25.18	24.57	25.59	26.03
	6H	25.08	26.00	25.54	26.44	26.89	24.75	25.66	25.20	26.10	26.56
	8H	25.28	26.14	25.74	26.58	27.05	24.96	25.81	25.42	26.25	26.72
	12H	25.44	26.20	25.92	26.68	27.15	25.11	25.87	25.59	26.35	26.82
8H	4H	24.75	25.60	25.21	26.05	26.51	24.46	25.31	24.92	25.75	26.22
	6H	25.49	26.20	25.98	26.68	27.16	25.19	25.90	25.69	26.39	26.87
	8H	25.76	26.40	26.27	26.90	27.39	25.47	26.11	25.98	26.62	27.10
	12H	25.99	26.55	26.50	27.04	27.60	25.70	26.26	26.20	26.75	27.31
12H	4H	24.78	25.55	25.26	26.02	26.49	24.50	25.26	24.98	25.74	26.21
	6H	25.54	26.18	26.05	26.68	27.17	25.25	25.89	25.76	26.40	26.88
	8H	25.87	26.43	26.38	26.92	27.48	25.59	26.16	26.10	26.65	27.21