

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: P243286

Luminaire Tested: S123DRP-H1165D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243286  
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-H1165D927-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

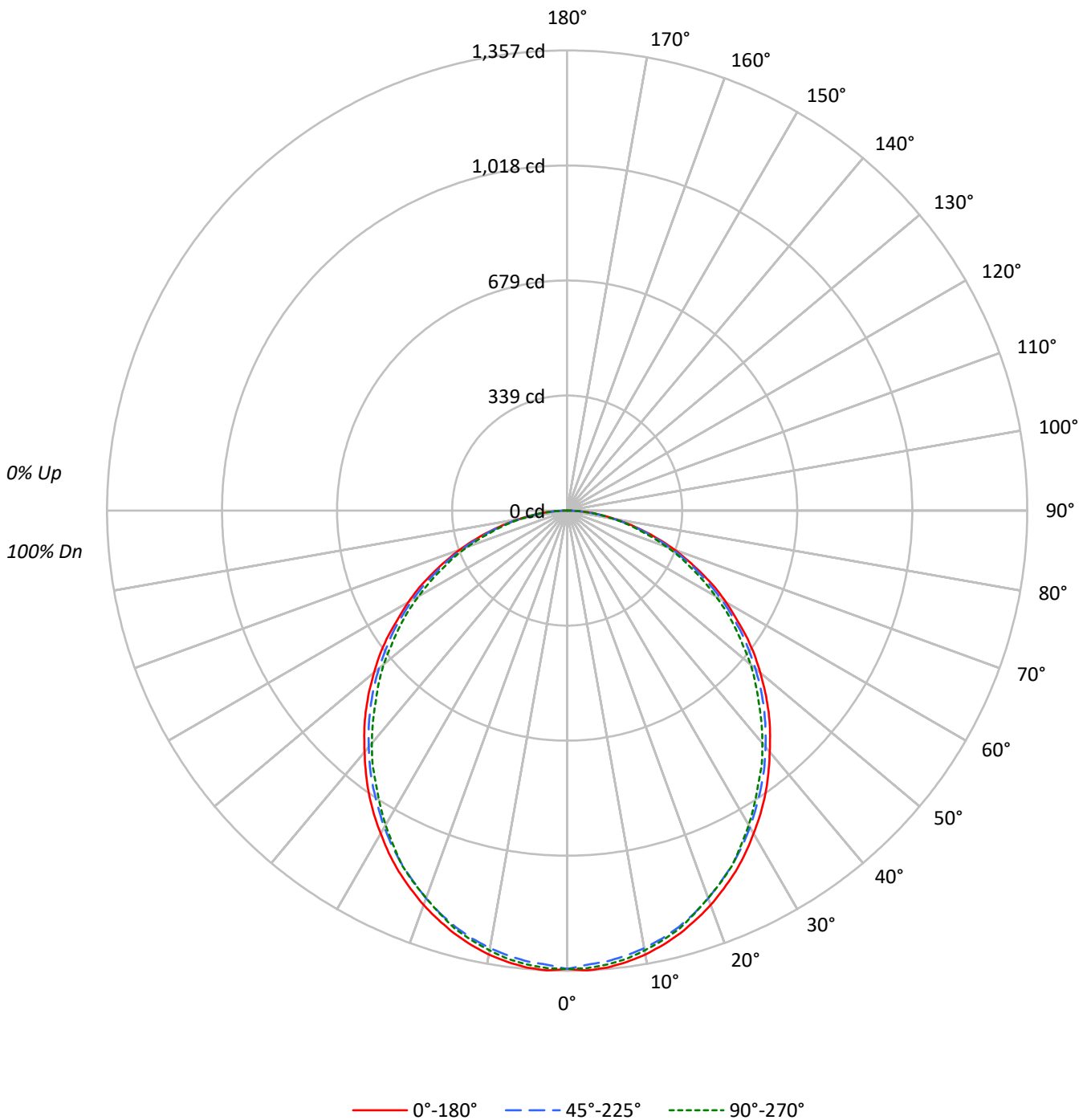
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3575.7 lumens  
Efficiency: N/A  
Efficacy: 94.8 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): 37.7  
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	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°	16383	16383	16383
5°	16460	16242	16351
10°	16363	16129	16211
15°	16193	15955	16025
20°	15969	15696	15681
25°	15708	15410	15425
30°	15393	15096	14987
35°	15087	14757	14543
40°	14704	14405	14176
45°	14403	14058	13696
50°	14015	13658	13323
55°	13612	13257	12811
60°	13127	12778	12264
65°	12560	12175	11665
70°	11926	11532	11057
75°	11062	10748	10177
80°	9954	9724	9409
85°	9304	8831	8525

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14403 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.5	3.6
10°-20°	360.6	10.1
20°-30°	533.9	14.9
30°-40°	626.1	17.5
40°-50°	633.0	17.7
50°-60°	559.8	15.7
60°-70°	420.5	11.8
70°-80°	242.3	6.8
80°-90°	71.9	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°	1022.0	28.6
0°-40°	1648.2	46.1
0°-60°	2841.0	79.5
0°-90°	3575.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3575.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1352	1352	1352	1352	1352	
5°	1353	1347	1335	1346	1344	128
15°	1290	1284	1271	1280	1277	364
25°	1174	1166	1152	1158	1153	541
35°	1020	1011	997	994	983	637
45°	840	834	820	809	799	648
55°	644	640	627	615	606	575
65°	438	435	424	413	407	434
75°	236	234	230	223	217	250
85°	67	66	64	62	61	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1351.6	1351.6	1351.6	1351.6	1351.6
2.5°	1357.2	1352.8	1340.5	1352.8	1350.5
5°	1352.8	1347.2	1334.9	1346.1	1343.8
7.5°	1342.7	1337.2	1323.8	1336.0	1333.8
10°	1329.4	1323.8	1310.4	1320.4	1317.1
12.5°	1311.5	1306.0	1292.6	1300.4	1298.2
15°	1290.4	1283.7	1271.4	1280.3	1277.0
17.5°	1264.7	1259.2	1245.8	1256.9	1246.9
20°	1238.0	1232.4	1216.8	1226.8	1215.7
22.5°	1206.8	1200.1	1184.5	1191.2	1185.6
25°	1174.5	1165.6	1152.2	1157.8	1153.3
27.5°	1138.8	1129.9	1116.5	1118.8	1111.0
30°	1099.8	1092.0	1078.6	1080.9	1070.8
32.5°	1060.8	1054.1	1037.4	1037.4	1027.4
35°	1019.6	1010.7	997.3	994.0	982.8
37.5°	975.0	967.2	955.0	949.4	942.7
40°	929.3	924.9	910.4	903.7	895.9
42.5°	885.9	878.1	865.8	856.9	848.0
45°	840.2	833.5	820.1	809.0	799.0
47.5°	792.3	786.7	773.3	761.1	753.3
50°	743.2	738.8	724.3	710.9	706.5
52.5°	695.3	689.8	675.3	663.0	654.1
55°	644.1	639.6	627.3	615.1	606.2
57.5°	589.5	589.5	576.1	564.9	558.3
60°	541.5	536.0	527.1	514.8	505.9
62.5°	491.4	488.1	475.8	463.5	456.9
65°	437.9	434.6	424.5	413.4	406.7
67.5°	385.5	384.4	375.5	366.6	362.1
70°	336.5	334.3	325.4	316.5	312.0
72.5°	286.4	284.1	276.3	268.5	263.0
75°	236.2	234.0	229.5	222.9	217.3
77.5°	187.2	187.2	181.6	179.4	177.2
80°	142.6	141.5	139.3	137.1	134.8
82.5°	102.5	101.4	99.2	98.1	98.1
85°	66.9	65.7	63.5	62.4	61.3
87.5°	34.5	32.3	31.2	29.0	27.9
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	21.17	22.79	21.53	23.11	23.42	20.86	22.48	21.22	22.79	23.11
	3H	22.96	24.43	23.34	24.76	25.12	22.61	24.08	22.99	24.41	24.77
	4H	23.64	25.03	24.04	25.37	25.75	23.26	24.64	23.66	24.99	25.37
	6H	24.14	25.42	24.55	25.79	26.18	23.76	25.04	24.17	25.41	25.80
	8H	24.31	25.53	24.73	25.92	26.32	23.93	25.16	24.36	25.55	25.95
	12H	24.43	25.60	24.86	25.99	26.41	24.05	25.23	24.48	25.61	26.04
4H	2H	21.76	23.14	22.16	23.49	23.86	21.51	22.90	21.91	23.24	23.62
	3H	23.78	24.94	24.19	25.34	25.74	23.49	24.65	23.90	25.04	25.44
	4H	24.59	25.64	25.02	26.06	26.49	24.27	25.32	24.70	25.73	26.16
	6H	25.22	26.14	25.68	26.58	27.04	24.90	25.81	25.35	26.25	26.71
	8H	25.44	26.30	25.90	26.74	27.21	25.12	25.98	25.58	26.42	26.88
	12H	25.61	26.39	26.09	26.86	27.33	25.28	26.06	25.76	26.53	27.00
8H	4H	24.89	25.75	25.35	26.19	26.65	24.60	25.46	25.06	25.90	26.37
	6H	25.64	26.36	26.13	26.84	27.32	25.35	26.07	25.85	26.56	27.03
	8H	25.94	26.58	26.45	27.09	27.57	25.65	26.30	26.16	26.80	27.29
	12H	26.20	26.76	26.70	27.25	27.81	25.90	26.47	26.41	26.96	27.52
12H	4H	24.92	25.69	25.40	26.17	26.64	24.64	25.41	25.12	25.89	26.36
	6H	25.70	26.34	26.20	26.85	27.33	25.42	26.06	25.93	26.57	27.06
	8H	26.05	26.62	26.56	27.11	27.67	25.78	26.35	26.29	26.84	27.40