

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: P242548

Luminaire Tested: S123RDRP-S1165D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242548
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S1165D930-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

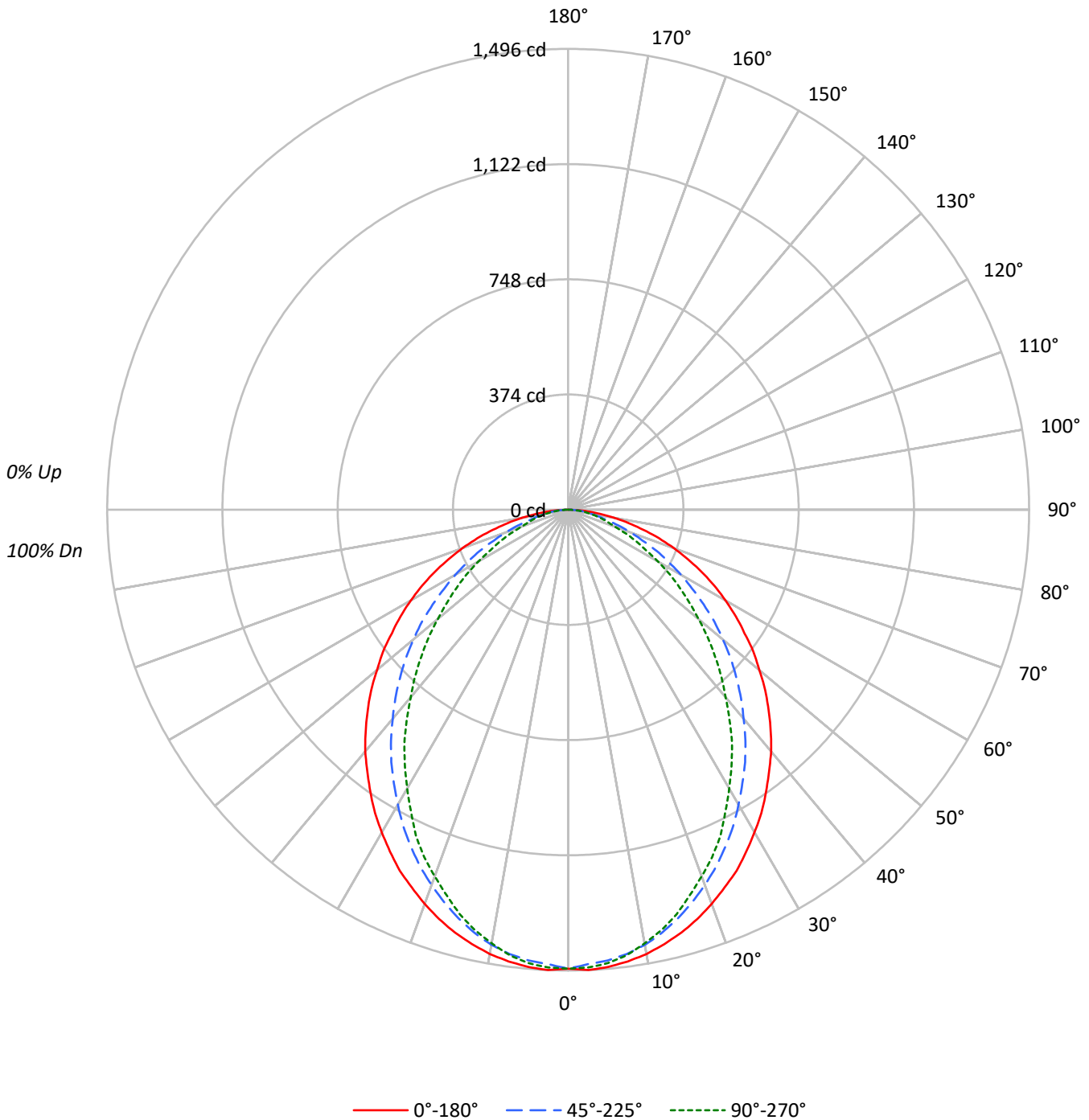
Lumens per Lamp: N/A
Luminaire Lumens: 3365.9 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

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	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18059	18059	18059
5°	18128	17878	17981
10°	18025	17654	17595
15°	17832	17241	17059
20°	17566	16724	16334
25°	17292	16144	15628
30°	16929	15474	14629
35°	16557	14805	13714
40°	16214	14015	12581
45°	15762	13235	11559
50°	15267	12350	10413
55°	14759	11338	9347
60°	14296	10252	8172
65°	13690	9080	7001
70°	12932	7623	5653
75°	11825	5999	5320
80°	10540	5312	4893
85°	8901	4701	4367

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15762 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.1	4.2
10°-20°	389.6	11.6
20°-30°	561.0	16.7
30°-40°	631.7	18.8
40°-50°	604.3	18.0
50°-60°	494.7	14.7
60°-70°	333.5	9.9
70°-80°	167.3	5.0
80°-90°	43.7	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°	1090.7	32.4
0°-40°	1722.4	51.2
0°-60°	2821.4	83.8
0°-90°	3365.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3365.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1490	1490	1490	1490	1490	
5°	1490	1484	1469	1480	1478	141
15°	1421	1408	1374	1368	1359	400
25°	1293	1263	1207	1182	1168	595
35°	1119	1075	1000	948	927	700
45°	920	865	772	703	674	710
55°	698	639	536	466	442	626
65°	477	411	317	257	244	472
75°	252	194	128	116	114	269
85°	64	38	34	31	31	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1489.9	1489.9	1489.9	1489.9	1489.9
2.5°	1495.9	1491.1	1476.6	1489.9	1487.5
5°	1489.9	1483.8	1469.3	1480.2	1477.8
7.5°	1479.0	1473.0	1454.8	1462.1	1458.5
10°	1464.5	1456.0	1434.3	1435.5	1429.5
12.5°	1444.0	1434.3	1406.5	1405.3	1398.0
15°	1421.0	1407.7	1373.9	1367.8	1359.4
17.5°	1393.2	1378.7	1336.4	1324.3	1312.3
20°	1361.8	1342.5	1296.5	1280.8	1266.3
22.5°	1326.8	1303.8	1254.3	1233.7	1220.4
25°	1292.9	1262.7	1207.1	1181.8	1168.5
27.5°	1251.8	1219.2	1158.8	1125.0	1104.4
30°	1209.5	1173.3	1105.6	1064.5	1045.2
32.5°	1167.3	1125.0	1052.5	1006.5	986.0
35°	1118.9	1075.4	1000.5	948.5	926.8
37.5°	1070.6	1023.5	944.9	886.9	860.3
40°	1024.7	971.5	885.7	822.9	795.1
42.5°	972.7	919.5	830.1	760.0	735.9
45°	919.5	865.2	772.1	703.3	674.3
47.5°	867.6	807.2	715.3	640.4	615.0
50°	809.6	752.8	654.9	580.0	552.2
52.5°	757.6	694.8	598.1	519.6	495.4
55°	698.4	639.2	536.5	466.4	442.3
57.5°	645.3	581.2	477.3	410.8	390.3
60°	589.7	523.2	422.9	357.7	337.1
62.5°	534.1	467.6	367.3	306.9	285.2
65°	477.3	410.8	316.6	257.4	244.1
67.5°	420.5	352.8	261.0	216.3	201.8
70°	364.9	299.7	215.1	172.8	159.5
72.5°	309.3	245.3	170.4	137.8	134.1
75°	252.5	194.5	128.1	116.0	113.6
77.5°	200.6	147.4	100.3	93.0	90.6
80°	151.0	101.5	76.1	72.5	70.1
82.5°	103.9	62.8	54.4	50.8	50.8
85°	64.0	37.5	33.8	31.4	31.4
87.5°	29.0	15.7	15.7	14.5	13.3
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	21.50	23.06	21.87	23.37	23.69	18.87	20.43	19.24	20.74	21.06
	3H	23.28	24.68	23.66	25.00	25.37	19.98	21.38	20.36	21.71	22.07
	4H	23.94	25.25	24.34	25.60	25.98	20.38	21.69	20.78	22.04	22.42
	6H	24.42	25.63	24.83	26.00	26.39	20.70	21.91	21.11	22.28	22.67
	8H	24.57	25.73	25.00	26.12	26.52	20.81	21.96	21.23	22.35	22.75
	12H	24.67	25.78	25.10	26.16	26.59	20.88	21.99	21.31	22.37	22.80
4H	2H	21.76	23.07	22.16	23.42	23.80	19.59	20.90	19.99	21.25	21.62
	3H	23.72	24.81	24.13	25.21	25.61	20.86	21.95	21.27	22.35	22.75
	4H	24.49	25.48	24.93	25.89	26.33	21.34	22.33	21.77	22.74	23.18
	6H	25.09	25.95	25.55	26.39	26.85	21.76	22.62	22.22	23.06	23.52
	8H	25.28	26.08	25.74	26.53	26.99	21.91	22.71	22.37	23.15	23.62
	12H	25.43	26.14	25.91	26.62	27.09	22.02	22.73	22.50	23.21	23.68
8H	4H	24.55	25.35	25.01	25.79	26.26	21.66	22.46	22.13	22.91	23.38
	6H	25.21	25.87	25.71	26.36	26.84	22.18	22.84	22.67	23.33	23.81
	8H	25.44	26.04	25.96	26.55	27.03	22.38	22.98	22.89	23.48	23.97
	12H	25.64	26.17	26.15	26.66	27.23	22.55	23.08	23.06	23.57	24.13
12H	4H	24.54	25.25	25.02	25.73	26.20	21.71	22.42	22.19	22.90	23.37
	6H	25.20	25.79	25.71	26.30	26.79	22.24	22.83	22.75	23.34	23.83
	8H	25.47	25.99	25.98	26.49	27.05	22.49	23.02	23.00	23.51	24.07