

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: P243574

Luminaire Tested: S124RDRP-H1020D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243574
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H1020D840-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

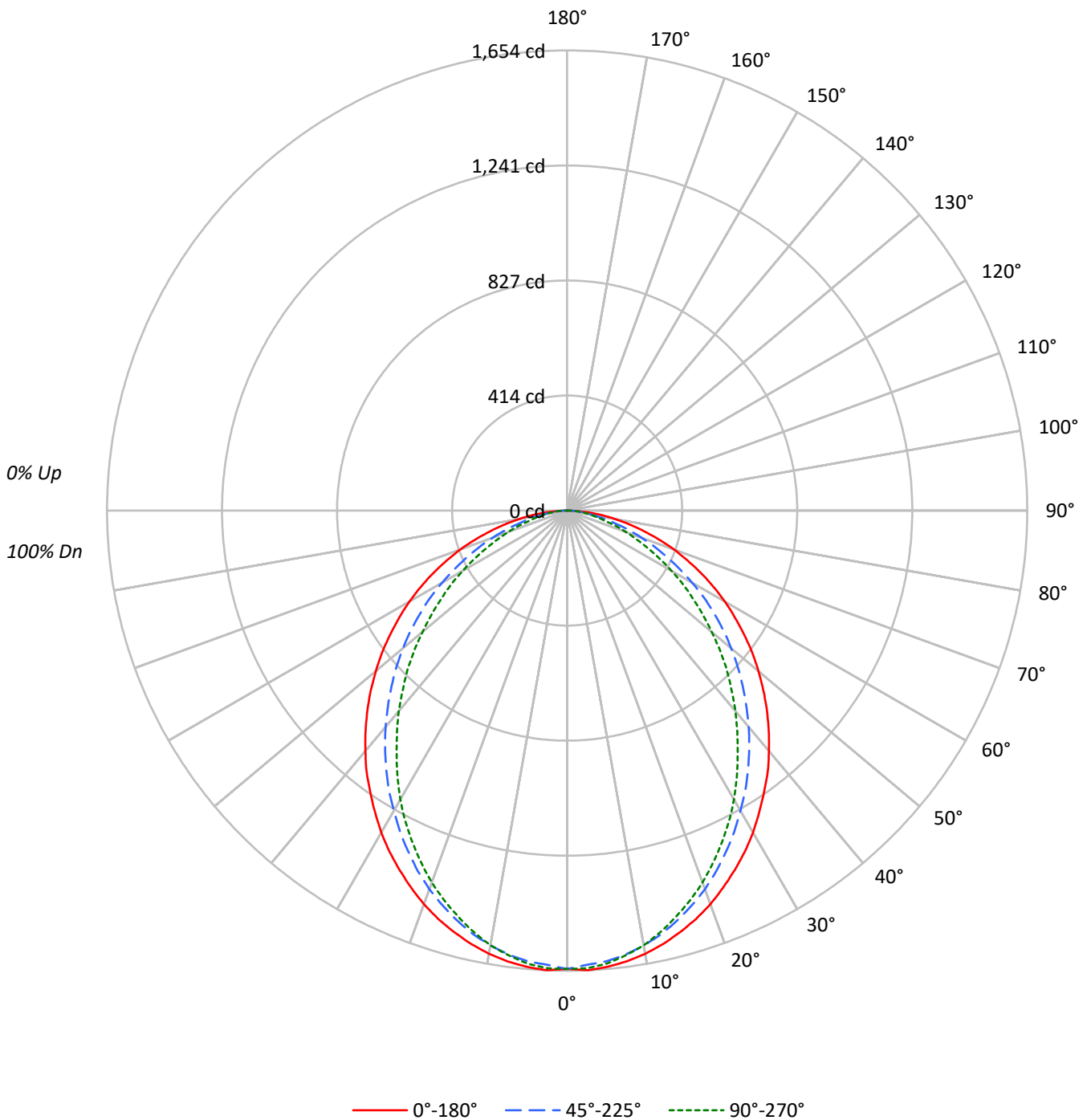
Lumens per Lamp: N/A
Luminaire Lumens: 3885.3 lumens
Efficiency: N/A
Efficacy: 123.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P243574

CATALOG NUMBER: S124RDRP-H1020D840-X4F0-XX-UDD-F-W

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	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14645	14645	14645
5°	14691	14507	14583
10°	14597	14323	14323
15°	14435	14044	13910
20°	14240	13699	13458
25°	13977	13262	12904
30°	13717	12781	12307
35°	13393	12311	11598
40°	13094	11781	10921
45°	12763	11219	10211
50°	12410	10644	9383
55°	12023	9988	8556
60°	11652	9230	7696
65°	11152	8337	6726
70°	10619	7363	5848
75°	9816	6137	4760
80°	8963	4791	4356
85°	7935	4589	4345

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12763 cd/sqm

TEST NUMBER: P243574

CATALOG NUMBER: S124RDRP-H1020D840-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.0	4.0
10°-20°	432.7	11.1
20°-30°	627.5	16.2
30°-40°	715.2	18.4
40°-50°	695.9	17.9
50°-60°	584.6	15.0
60°-70°	407.3	10.5
70°-80°	210.3	5.4
80°-90°	56.9	1.5
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°	1215.2	31.3
0°-40°	1930.4	49.7
0°-60°	3210.9	82.6
0°-90°	3885.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3885.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1648	1648	1648	1648	1648	
5°	1646	1642	1626	1638	1634	156
15°	1569	1556	1526	1524	1512	442
25°	1425	1398	1352	1333	1316	657
35°	1234	1196	1134	1092	1069	773
45°	1015	967	892	835	812	783
55°	776	726	644	579	552	695
65°	530	479	396	339	320	525
75°	286	242	179	150	139	304
85°	78	50	45	43	43	89
90°	0	0	0	0	0	

TEST NUMBER: P243574

CATALOG NUMBER: S124RDRP-H1020D840-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1647.6	1647.6	1647.6	1647.6	1647.6
2.5°	1653.7	1648.9	1634.3	1647.6	1646.4
5°	1646.4	1641.6	1625.8	1637.9	1634.3
7.5°	1634.3	1628.2	1610.0	1618.5	1612.4
10°	1617.2	1611.2	1586.8	1592.9	1586.8
12.5°	1595.4	1586.8	1560.1	1561.3	1551.6
15°	1568.6	1556.5	1526.1	1523.6	1511.5
17.5°	1539.4	1523.6	1488.4	1482.3	1468.9
20°	1505.4	1485.9	1448.2	1434.9	1422.7
22.5°	1466.5	1443.4	1402.0	1386.2	1370.4
25°	1425.1	1398.4	1352.2	1332.7	1315.7
27.5°	1382.6	1351.0	1301.1	1276.8	1259.8
30°	1336.4	1299.9	1245.2	1217.2	1199.0
32.5°	1285.3	1248.8	1191.7	1157.6	1134.5
35°	1234.2	1196.5	1134.5	1091.9	1068.8
37.5°	1184.4	1141.8	1074.9	1031.1	1004.4
40°	1128.4	1083.4	1015.3	965.5	941.2
42.5°	1072.5	1026.3	953.3	901.0	874.3
45°	1015.3	966.7	892.5	835.4	812.3
47.5°	957.0	908.3	831.7	772.1	745.4
50°	897.4	848.8	769.7	704.1	678.5
52.5°	839.0	788.0	708.9	642.0	615.3
55°	775.8	725.9	644.5	578.8	552.1
57.5°	715.0	662.7	583.7	516.8	494.9
60°	655.4	603.1	519.2	454.8	432.9
62.5°	592.2	539.9	457.2	395.2	375.7
65°	530.2	479.1	396.4	339.3	319.8
67.5°	466.9	420.7	340.5	285.8	269.9
70°	408.6	356.3	283.3	235.9	225.0
72.5°	346.6	300.3	229.8	190.9	182.4
75°	285.8	242.0	178.7	149.6	138.6
77.5°	229.8	187.3	135.0	110.7	110.7
80°	175.1	137.4	93.6	87.6	85.1
82.5°	124.0	88.8	69.3	64.4	63.2
85°	77.8	49.9	45.0	42.6	42.6
87.5°	37.7	23.1	23.1	21.9	21.9
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243574
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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	22.35	21.14	22.67	22.98	18.88	20.46	19.24	20.77	21.08
	3H	22.59	24.01	22.97	24.34	24.70	20.14	21.56	20.52	21.89	22.25
	4H	23.28	24.61	23.67	24.96	25.33	20.54	21.87	20.94	22.22	22.60
	6H	23.79	25.02	24.20	25.39	25.78	20.82	22.05	21.23	22.42	22.81
	8H	23.96	25.14	24.39	25.53	25.93	20.92	22.09	21.34	22.48	22.88
	12H	24.08	25.20	24.51	25.59	26.02	21.00	22.12	21.43	22.51	22.94
4H	2H	21.13	22.46	21.53	22.81	23.19	19.58	20.92	19.98	21.26	21.64
	3H	23.15	24.26	23.56	24.66	25.06	21.03	22.14	21.44	22.54	22.94
	4H	23.96	24.96	24.39	25.37	25.81	21.51	22.51	21.94	22.93	23.37
	6H	24.60	25.47	25.05	25.91	26.37	21.88	22.75	22.33	23.19	23.65
	8H	24.82	25.63	25.28	26.08	26.54	22.01	22.83	22.48	23.27	23.74
	12H	24.98	25.71	25.46	26.19	26.66	22.13	22.86	22.61	23.34	23.81
8H	4H	24.06	24.88	24.53	25.32	25.79	21.84	22.66	22.31	23.10	23.57
	6H	24.79	25.46	25.28	25.95	26.43	22.30	22.97	22.79	23.46	23.94
	8H	25.06	25.67	25.57	26.18	26.66	22.49	23.10	23.00	23.60	24.09
	12H	25.29	25.83	25.80	26.32	26.88	22.67	23.21	23.18	23.70	24.26
12H	4H	24.06	24.79	24.54	25.26	25.73	21.89	22.62	22.37	23.10	23.57
	6H	24.78	25.39	25.29	25.90	26.38	22.36	22.97	22.87	23.47	23.96
	8H	25.10	25.63	25.60	26.12	26.69	22.61	23.14	23.11	23.63	24.20