

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: P242714

Luminaire Tested: S124RDRP-S1020D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-S1020D840-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

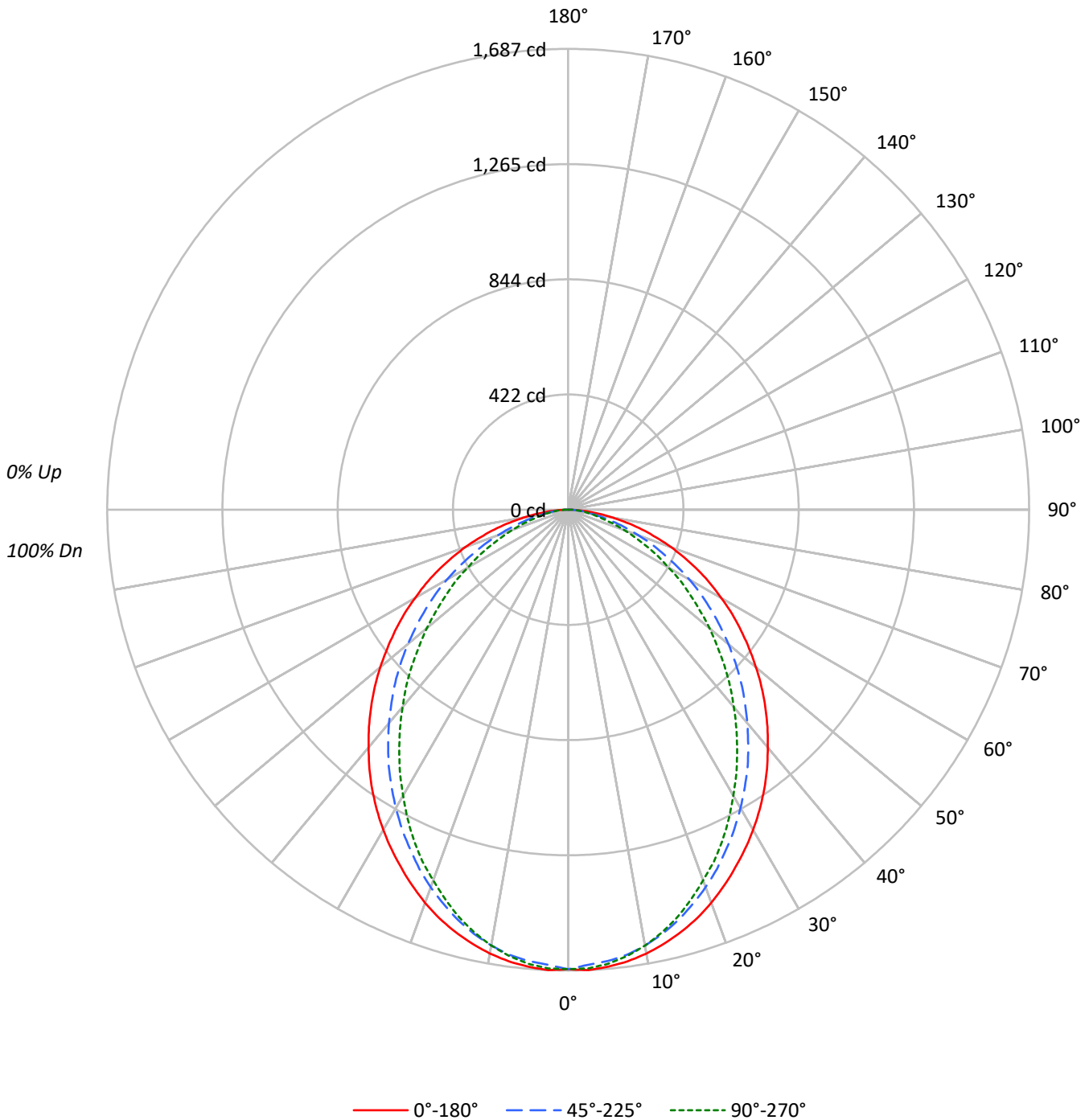
Lumens per Lamp: N/A
Luminaire Lumens: 3886.2 lumens
Efficiency: N/A
Efficacy: 111.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14950	14950	14950
5°	14984	14800	14892
10°	14890	14623	14623
15°	14719	14316	14210
20°	14484	13912	13657
25°	14184	13439	13098
30°	13892	12941	12399
35°	13570	12424	11697
40°	13181	11836	10939
45°	12822	11251	10167
50°	12413	10579	9350
55°	11975	9880	8462
60°	11493	9113	7556
65°	11051	8152	6663
70°	10409	7095	5655
75°	9599	5883	4599
80°	8375	4484	4218
85°	7088	4069	3804

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12822 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.2	4.1
10°-20°	441.0	11.3
20°-30°	636.6	16.4
30°-40°	721.5	18.6
40°-50°	696.7	17.9
50°-60°	579.2	14.9
60°-70°	399.8	10.3
70°-80°	202.0	5.2
80°-90°	51.3	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°	1235.8	31.8
0°-40°	1957.3	50.4
0°-60°	3233.2	83.2
0°-90°	3886.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3886.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1682	1682	1682	1682	1682	
5°	1679	1674	1659	1672	1669	159
15°	1600	1588	1556	1553	1544	451
25°	1446	1423	1370	1348	1336	666
35°	1250	1209	1145	1101	1078	782
45°	1020	972	895	832	809	787
55°	773	721	638	570	546	691
65°	525	470	388	332	317	519
75°	280	232	171	142	134	295
85°	70	44	40	37	37	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1681.9	1681.9	1681.9	1681.9	1681.9
2.5°	1687.1	1681.9	1667.7	1681.9	1680.6
5°	1679.3	1674.2	1658.7	1671.6	1669.0
7.5°	1667.7	1662.6	1643.3	1652.3	1648.4
10°	1649.7	1643.3	1620.1	1625.2	1620.1
12.5°	1626.5	1618.8	1590.5	1593.0	1585.3
15°	1599.5	1587.9	1555.7	1553.1	1544.1
17.5°	1568.6	1551.8	1514.5	1508.0	1495.2
20°	1531.2	1514.5	1470.7	1460.4	1443.7
22.5°	1490.0	1470.7	1423.0	1406.3	1393.4
25°	1446.2	1423.0	1370.2	1348.4	1335.5
27.5°	1401.2	1372.8	1317.4	1291.7	1273.7
30°	1353.5	1321.3	1260.8	1228.6	1208.0
32.5°	1303.3	1265.9	1202.8	1164.2	1144.9
35°	1250.5	1209.3	1144.9	1101.1	1077.9
37.5°	1195.1	1152.6	1081.8	1034.1	1010.9
40°	1135.9	1093.4	1020.0	965.9	942.7
42.5°	1079.2	1034.1	956.9	901.5	877.0
45°	1020.0	972.3	895.0	831.9	808.8
47.5°	959.4	910.5	830.6	765.0	739.2
50°	897.6	847.4	765.0	700.6	676.1
52.5°	834.5	785.6	700.6	634.9	609.1
55°	772.7	721.2	637.5	570.5	546.0
57.5°	712.2	658.1	575.7	507.4	489.4
60°	646.5	595.0	512.6	445.6	425.0
62.5°	587.2	533.2	448.2	387.6	372.2
65°	525.4	470.1	387.6	332.3	316.8
67.5°	461.0	408.2	331.0	282.0	264.0
70°	400.5	346.4	273.0	230.5	217.6
72.5°	336.1	288.5	220.2	185.4	173.9
75°	279.5	231.8	171.3	141.7	133.9
77.5°	220.2	179.0	127.5	106.9	104.3
80°	163.6	126.2	87.6	83.7	82.4
82.5°	114.6	81.1	63.1	60.5	59.2
85°	69.5	43.8	39.9	37.3	37.3
87.5°	29.6	19.3	18.0	16.7	18.0
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	20.74	22.31	21.11	22.62	22.93	18.77	20.34	19.14	20.65	20.97
	3H	22.51	23.92	22.89	24.25	24.61	20.02	21.43	20.40	21.76	22.12
	4H	23.17	24.49	23.57	24.84	25.22	20.40	21.72	20.80	22.07	22.45
	6H	23.65	24.87	24.06	25.24	25.63	20.66	21.89	21.07	22.25	22.64
	8H	23.80	24.96	24.22	25.35	25.75	20.76	21.92	21.18	22.31	22.71
	12H	23.89	25.01	24.32	25.39	25.82	20.82	21.94	21.25	22.32	22.75
4H	2H	21.08	22.40	21.48	22.75	23.13	19.47	20.79	19.86	21.14	21.51
	3H	23.04	24.15	23.45	24.54	24.94	20.90	22.00	21.31	22.40	22.80
	4H	23.82	24.82	24.26	25.23	25.67	21.35	22.35	21.79	22.76	23.20
	6H	24.42	25.29	24.88	25.73	26.19	21.70	22.57	22.16	23.01	23.47
	8H	24.61	25.42	25.08	25.87	26.33	21.83	22.64	22.29	23.08	23.55
	12H	24.75	25.48	25.24	25.96	26.43	21.93	22.65	22.41	23.13	23.60
8H	4H	23.92	24.73	24.38	25.17	25.64	21.67	22.48	22.13	22.92	23.39
	6H	24.59	25.26	25.09	25.75	26.23	22.10	22.77	22.59	23.26	23.73
	8H	24.83	25.43	25.35	25.94	26.43	22.28	22.88	22.79	23.39	23.87
	12H	25.03	25.56	25.54	26.05	26.61	22.43	22.96	22.94	23.46	24.02
12H	4H	23.91	24.63	24.39	25.11	25.58	21.71	22.43	22.19	22.91	23.38
	6H	24.58	25.18	25.09	25.69	26.18	22.15	22.75	22.66	23.26	23.75
	8H	24.86	25.39	25.37	25.88	26.45	22.38	22.91	22.89	23.40	23.97