

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: P242611

Luminaire Tested: S124DRP-S1020D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242611
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S1020D840-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

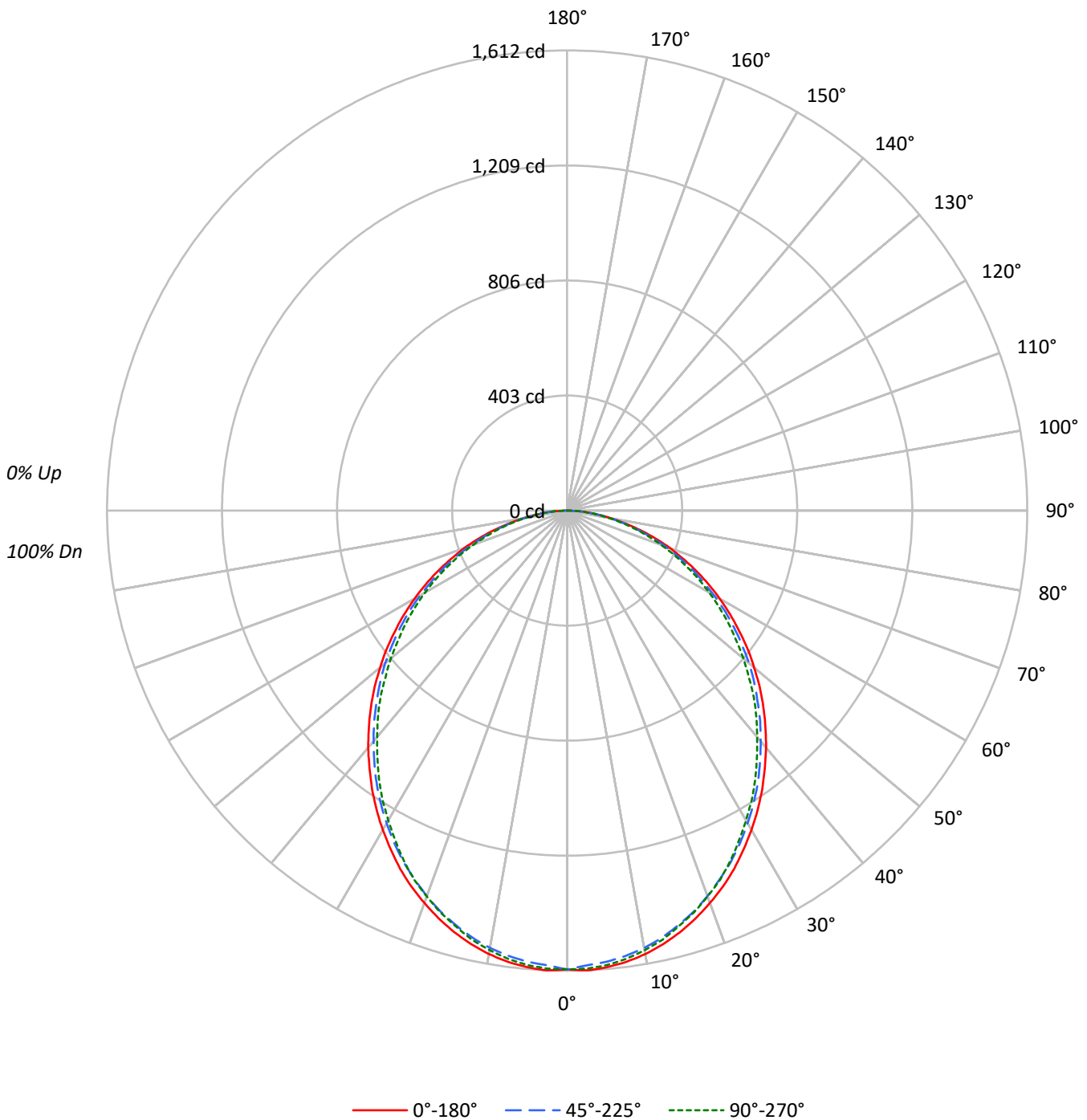
Lumens per Lamp: N/A
Luminaire Lumens: 4125.2 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): 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	95	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	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14286	14286	14286
5°	14329	14157	14261
10°	14239	14042	14111
15°	14068	13842	13877
20°	13839	13595	13607
25°	13578	13313	13275
30°	13258	12980	12862
35°	12926	12633	12465
40°	12583	12238	12014
45°	12223	11851	11624
50°	11825	11504	11149
55°	11397	11057	10698
60°	10967	10555	10235
65°	10483	10077	9671
70°	9941	9439	9070
75°	9111	8668	8449
80°	8108	7781	7581
85°	7088	6833	6701

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12223 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.5	3.7
10°-20°	426.8	10.3
20°-30°	628.1	15.2
30°-40°	730.1	17.7
40°-50°	730.1	17.7
50°-60°	638.6	15.5
60°-70°	474.1	11.5
70°-80°	269.0	6.5
80°-90°	77.0	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°	1206.4	29.2
0°-40°	1936.5	46.9
0°-60°	3305.1	80.1
0°-90°	4125.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4125.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1607	1607	1607	1607	1607	
5°	1606	1601	1587	1601	1598	152
15°	1529	1524	1504	1512	1508	431
25°	1384	1375	1357	1359	1354	637
35°	1191	1182	1164	1155	1149	745
45°	972	963	943	928	925	750
55°	735	732	714	698	690	659
65°	498	492	479	466	460	493
75°	265	259	252	247	246	281
85°	70	70	67	67	66	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1607.2	1607.2	1607.2	1607.2	1607.2
2.5°	1612.4	1608.5	1594.3	1607.2	1605.9
5°	1605.9	1600.8	1586.6	1600.8	1598.2
7.5°	1594.3	1589.2	1573.7	1585.3	1584.0
10°	1577.6	1572.4	1555.7	1566.0	1563.4
12.5°	1555.7	1550.5	1532.5	1544.1	1540.2
15°	1528.7	1523.5	1504.2	1511.9	1508.0
17.5°	1497.7	1491.3	1473.3	1478.4	1475.9
20°	1463.0	1456.5	1437.2	1441.1	1438.5
22.5°	1425.6	1416.6	1397.3	1405.0	1399.9
25°	1384.4	1375.4	1357.4	1358.7	1353.5
27.5°	1338.1	1329.0	1312.3	1309.7	1303.3
30°	1291.7	1281.4	1264.6	1259.5	1253.1
32.5°	1242.8	1233.7	1215.7	1209.3	1202.8
35°	1191.2	1182.2	1164.2	1155.2	1148.7
37.5°	1137.2	1129.4	1110.1	1101.1	1092.1
40°	1084.4	1074.0	1054.7	1041.9	1035.4
42.5°	1027.7	1022.5	1000.6	985.2	981.3
45°	972.3	963.3	942.7	928.5	924.7
47.5°	914.4	907.9	888.6	873.1	862.8
50°	855.1	850.0	831.9	813.9	806.2
52.5°	797.2	790.7	771.4	756.0	745.7
55°	735.4	731.5	713.5	698.0	690.3
57.5°	677.4	673.5	655.5	640.1	632.3
60°	616.9	610.4	593.7	582.1	575.7
62.5°	557.6	552.5	534.4	524.1	517.7
65°	498.4	492.0	479.1	466.2	459.8
67.5°	437.9	432.7	419.8	407.0	405.7
70°	382.5	373.5	363.2	352.9	349.0
72.5°	323.2	314.2	306.5	298.8	294.9
75°	265.3	258.9	252.4	247.3	246.0
77.5°	208.6	206.1	199.6	198.3	194.5
80°	158.4	154.5	152.0	149.4	148.1
82.5°	109.5	108.2	108.2	106.9	105.6
85°	69.5	69.5	67.0	67.0	65.7
87.5°	33.5	32.2	30.9	30.9	30.9
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	20.54	22.15	20.90	22.47	22.78	20.16	21.78	20.53	22.09	22.41
	3H	22.30	23.76	22.68	24.08	24.44	21.87	23.33	22.25	23.66	24.02
	4H	22.95	24.33	23.35	24.67	25.05	22.52	23.89	22.92	24.24	24.62
	6H	23.43	24.70	23.84	25.06	25.46	22.99	24.27	23.41	24.63	25.02
	8H	23.58	24.79	24.00	25.18	25.58	23.15	24.37	23.58	24.76	25.16
	12H	23.68	24.85	24.11	25.23	25.66	23.26	24.43	23.69	24.81	25.24
4H	2H	21.11	22.48	21.51	22.83	23.21	20.81	22.18	21.21	22.53	22.91
	3H	23.09	24.24	23.50	24.64	25.04	22.74	23.89	23.15	24.29	24.69
	4H	23.87	24.91	24.30	25.32	25.76	23.51	24.55	23.94	24.96	25.40
	6H	24.47	25.38	24.93	25.82	26.28	24.11	25.02	24.56	25.46	25.92
	8H	24.67	25.52	25.13	25.97	26.43	24.32	25.17	24.78	25.61	26.07
	12H	24.82	25.59	25.30	26.06	26.53	24.47	25.23	24.95	25.71	26.18
8H	4H	24.15	25.00	24.61	25.44	25.91	23.83	24.68	24.29	25.12	25.58
	6H	24.87	25.58	25.36	26.06	26.54	24.55	25.26	25.04	25.75	26.22
	8H	25.14	25.78	25.65	26.28	26.77	24.83	25.47	25.34	25.97	26.46
	12H	25.37	25.93	25.88	26.42	26.98	25.06	25.62	25.57	26.12	26.68
12H	4H	24.18	24.94	24.66	25.42	25.88	23.86	24.63	24.34	25.10	25.57
	6H	24.92	25.55	25.43	26.06	26.55	24.61	25.25	25.12	25.75	26.24
	8H	25.25	25.81	25.75	26.30	26.86	24.95	25.51	25.46	26.00	26.56