

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: P242558

Luminaire Tested: S123RDRP-S1165D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242558
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-S1165D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

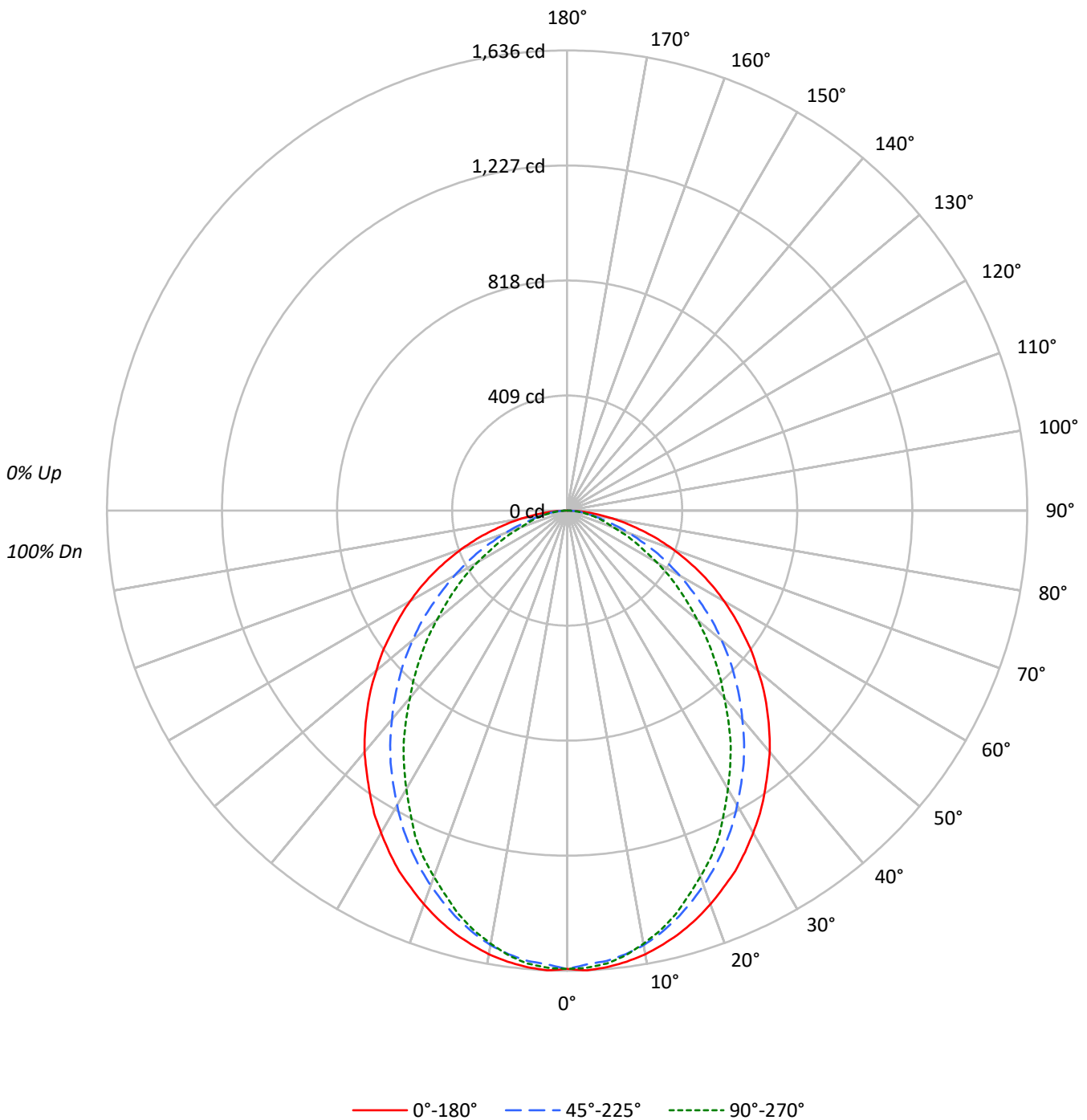
Lumens per Lamp: N/A
Luminaire Lumens: 3681.4 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 41.1
Input Voltage (V): 120
Input Current (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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86				86
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73				73
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62				62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54				54
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47				47
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42				42
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37				37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34				34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30				30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28				28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19752	19752	19752
5°	19827	19553	19666
10°	19715	19308	19243
15°	19503	18856	18658
20°	19212	18292	17865
25°	18913	17658	17092
30°	18516	16926	16001
35°	18109	16193	15000
40°	17733	15328	13760
45°	17240	14476	12641
50°	16698	13507	11390
55°	16143	12401	10222
60°	15634	11215	8938
65°	14972	9932	7658
70°	14144	8336	6181
75°	12935	6561	5817
80°	11532	5815	5354
85°	9735	5146	4784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 17240 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.2	4.2
10°-20°	426.1	11.6
20°-30°	613.6	16.7
30°-40°	691.0	18.8
40°-50°	660.9	18.0
50°-60°	541.0	14.7
60°-70°	364.8	9.9
70°-80°	183.0	5.0
80°-90°	47.8	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°	1192.9	32.4
0°-40°	1883.8	51.2
0°-60°	3085.8	83.8
0°-90°	3681.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3681.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1630	1623	1607	1619	1616	155
15°	1554	1540	1503	1496	1487	438
25°	1414	1381	1320	1292	1278	650
35°	1224	1176	1094	1037	1014	766
45°	1006	946	844	769	737	776
55°	764	699	587	510	484	685
65°	522	449	346	282	267	517
75°	276	213	140	127	124	294
85°	70	41	37	34	34	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1629.5	1629.5	1629.5	1629.5	1629.5
2.5°	1636.1	1630.8	1615.0	1629.5	1626.9
5°	1629.5	1622.9	1607.0	1618.9	1616.3
7.5°	1617.6	1611.0	1591.2	1599.1	1595.2
10°	1601.8	1592.5	1568.7	1570.0	1563.4
12.5°	1579.3	1568.7	1538.3	1537.0	1529.1
15°	1554.2	1539.6	1502.6	1496.0	1486.8
17.5°	1523.8	1507.9	1461.7	1448.5	1435.2
20°	1489.4	1468.3	1418.1	1400.9	1385.0
22.5°	1451.1	1426.0	1371.8	1349.3	1334.8
25°	1414.1	1381.1	1320.3	1292.5	1278.0
27.5°	1369.2	1333.5	1267.4	1230.4	1207.9
30°	1322.9	1283.3	1209.3	1164.3	1143.2
32.5°	1276.7	1230.4	1151.1	1100.9	1078.4
35°	1223.8	1176.2	1094.3	1037.4	1013.7
37.5°	1170.9	1119.4	1033.5	970.0	941.0
40°	1120.7	1062.6	968.7	900.0	869.6
42.5°	1063.9	1005.7	907.9	831.3	804.8
45°	1005.7	946.3	844.5	769.2	737.4
47.5°	948.9	882.8	782.4	700.4	672.7
50°	885.5	823.3	716.3	634.4	604.0
52.5°	828.6	759.9	654.2	568.3	541.9
55°	763.9	699.1	586.8	510.1	483.7
57.5°	705.7	635.7	522.0	449.3	426.9
60°	644.9	572.2	462.6	391.2	368.7
62.5°	584.1	511.5	401.8	335.7	311.9
65°	522.0	449.3	346.3	281.5	267.0
67.5°	459.9	385.9	285.5	236.6	220.7
70°	399.1	327.8	235.2	189.0	174.4
72.5°	338.3	268.3	186.3	150.7	146.7
75°	276.2	212.8	140.1	126.9	124.2
77.5°	219.4	161.2	109.7	101.8	99.1
80°	165.2	111.0	83.3	79.3	76.7
82.5°	113.7	68.7	59.5	55.5	55.5
85°	70.0	41.0	37.0	34.4	34.4
87.5°	31.7	17.2	17.2	15.9	14.5
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	21.81	23.37	22.18	23.68	24.00	19.18	20.74	19.55	21.05	21.37
	3H	23.59	24.99	23.97	25.32	25.68	20.30	21.69	20.67	22.02	22.38
	4H	24.25	25.56	24.65	25.91	26.29	20.69	22.00	21.09	22.35	22.73
	6H	24.73	25.94	25.14	26.31	26.70	21.01	22.22	21.42	22.59	22.98
	8H	24.88	26.04	25.31	26.43	26.83	21.12	22.28	21.54	22.66	23.07
	12H	24.98	26.09	25.41	26.47	26.90	21.19	22.30	21.62	22.68	23.11
4H	2H	22.07	23.39	22.47	23.73	24.11	19.90	21.21	20.30	21.56	21.94
	3H	24.03	25.13	24.44	25.53	25.93	21.17	22.27	21.58	22.66	23.07
	4H	24.81	25.79	25.24	26.20	26.64	21.65	22.64	22.09	23.05	23.49
	6H	25.40	26.26	25.86	26.70	27.16	22.07	22.93	22.53	23.37	23.83
	8H	25.59	26.39	26.06	26.84	27.30	22.22	23.02	22.68	23.46	23.93
	12H	25.74	26.46	26.22	26.93	27.40	22.33	23.04	22.81	23.52	23.99
8H	4H	24.86	25.66	25.32	26.10	26.57	21.98	22.78	22.44	23.22	23.69
	6H	25.52	26.18	26.02	26.67	27.15	22.49	23.15	22.98	23.64	24.12
	8H	25.76	26.35	26.27	26.86	27.35	22.69	23.29	23.21	23.80	24.28
	12H	25.96	26.48	26.47	26.97	27.54	22.86	23.39	23.37	23.88	24.44
12H	4H	24.85	25.57	25.33	26.04	26.51	22.02	22.74	22.50	23.21	23.68
	6H	25.51	26.10	26.02	26.61	27.10	22.55	23.14	23.06	23.65	24.14
	8H	25.78	26.31	26.29	26.80	27.36	22.81	23.33	23.31	23.82	24.39