

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: P243291

Luminaire Tested: S123DRP-H1165D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243291
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H1165D830-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

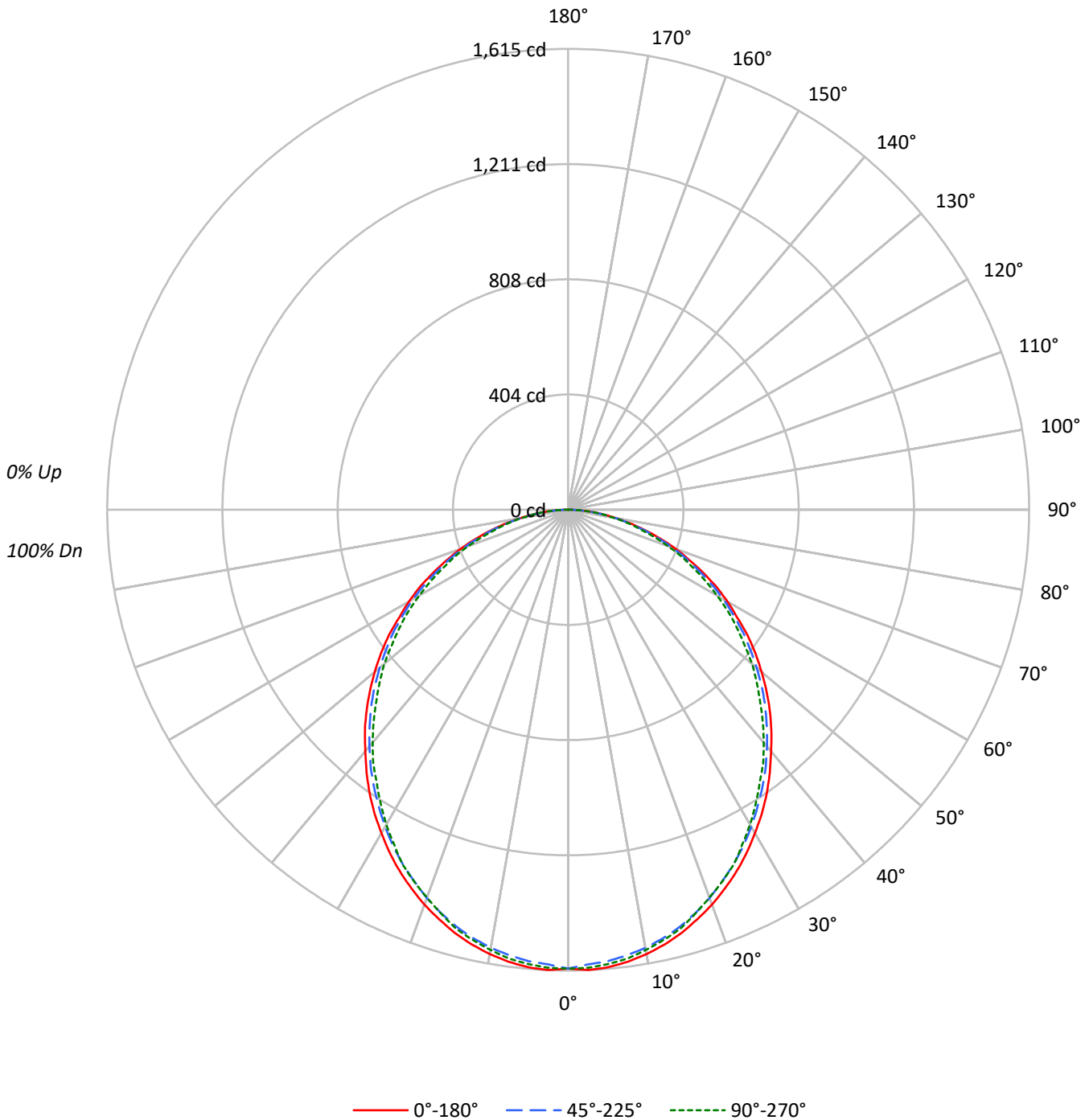
Lumens per Lamp: N/A
Luminaire Lumens: 4254.3 lumens
Efficiency: N/A
Efficacy: 112.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 37.7
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: P243291

CATALOG NUMBER: S123DRP-H1165D830-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	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	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84				84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70				70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59				59
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51				51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44				44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39				39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34				34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30				30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27				27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25				25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19493	19493	19493
5°	19584	19326	19455
10°	19468	19190	19288
15°	19266	18983	19067
20°	19000	18675	18657
25°	18689	18335	18352
30°	18316	17963	17833
35°	17951	17558	17304
40°	17496	17140	16866
45°	17137	16727	16295
50°	16675	16251	15851
55°	16194	15773	15241
60°	15619	15202	14592
65°	14943	14487	13879
70°	14190	13719	13155
75°	13165	12790	12106
80°	11846	11566	11196
85°	11056	10514	10139

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 17137 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.7	3.6
10°-20°	429.1	10.1
20°-30°	635.2	14.9
30°-40°	745.0	17.5
40°-50°	753.2	17.7
50°-60°	666.1	15.7
60°-70°	500.3	11.8
70°-80°	288.3	6.8
80°-90°	85.5	2.0
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°	1216.0	28.6
0°-40°	1961.0	46.1
0°-60°	3380.2	79.5
0°-90°	4254.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4254.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1608	1608	1608	1608	1608	
5°	1610	1603	1588	1602	1599	153
15°	1535	1527	1513	1523	1519	433
25°	1397	1387	1371	1378	1372	643
35°	1213	1202	1187	1183	1169	758
45°	1000	992	976	962	951	770
55°	766	761	746	732	721	684
65°	521	517	505	492	484	516
75°	281	278	273	265	258	298
85°	80	78	76	74	73	89
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1608.2	1608.2	1608.2	1608.2	1608.2
2.5°	1614.8	1609.5	1594.9	1609.5	1606.9
5°	1609.5	1602.9	1588.3	1601.6	1598.9
7.5°	1597.6	1591.0	1575.0	1589.6	1587.0
10°	1581.7	1575.0	1559.1	1571.1	1567.1
12.5°	1560.5	1553.8	1537.9	1547.2	1544.6
15°	1535.3	1527.3	1512.7	1523.3	1519.4
17.5°	1504.8	1498.2	1482.2	1495.5	1483.6
20°	1473.0	1466.3	1447.8	1459.7	1446.4
22.5°	1435.8	1427.9	1409.3	1417.3	1410.6
25°	1397.4	1386.8	1370.9	1377.5	1372.2
27.5°	1355.0	1344.4	1328.4	1331.1	1321.8
30°	1308.6	1299.3	1283.4	1286.0	1274.1
32.5°	1262.2	1254.2	1234.3	1234.3	1222.4
35°	1213.1	1202.5	1186.6	1182.6	1169.4
37.5°	1160.1	1150.8	1136.2	1129.6	1121.6
40°	1105.7	1100.4	1083.2	1075.2	1065.9
42.5°	1054.0	1044.7	1030.1	1019.5	1008.9
45°	999.7	991.7	975.8	962.5	950.6
47.5°	942.6	936.0	920.1	905.5	896.2
50°	884.3	879.0	861.8	845.9	840.6
52.5°	827.3	820.7	803.4	788.8	778.2
55°	766.3	761.0	746.4	731.8	721.2
57.5°	701.3	701.3	685.4	672.2	664.2
60°	644.3	637.7	627.1	612.5	601.9
62.5°	584.7	580.7	566.1	551.5	543.6
65°	521.0	517.1	505.1	491.9	483.9
67.5°	458.7	457.4	446.8	436.2	430.9
70°	400.4	397.7	387.1	376.5	371.2
72.5°	340.7	338.1	328.8	319.5	312.9
75°	281.1	278.4	273.1	265.2	258.5
77.5°	222.7	222.7	216.1	213.5	210.8
80°	169.7	168.4	165.7	163.1	160.4
82.5°	122.0	120.6	118.0	116.7	116.7
85°	79.5	78.2	75.6	74.2	72.9
87.5°	41.1	38.4	37.1	34.5	33.1
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	21.77	23.39	22.13	23.71	24.02	21.46	23.09	21.82	23.40	23.71
	3H	23.57	25.04	23.94	25.36	25.72	23.22	24.68	23.59	25.01	25.37
	4H	24.24	25.63	24.64	25.98	26.35	23.86	25.25	24.26	25.60	25.97
	6H	24.74	26.03	25.15	26.39	26.78	24.36	25.65	24.78	26.01	26.40
	8H	24.91	26.14	25.33	26.52	26.92	24.54	25.76	24.96	26.15	26.55
	12H	25.03	26.21	25.46	26.59	27.02	24.66	25.83	25.09	26.21	26.64
4H	2H	22.36	23.74	22.76	24.09	24.47	22.12	23.50	22.51	23.85	24.22
	3H	24.39	25.55	24.80	25.94	26.34	24.09	25.25	24.50	25.65	26.05
	4H	25.20	26.25	25.63	26.66	27.10	24.87	25.92	25.30	26.33	26.77
	6H	25.83	26.74	26.28	27.18	27.64	25.50	26.42	25.95	26.86	27.31
	8H	26.04	26.90	26.50	27.35	27.81	25.72	26.58	26.18	27.02	27.49
	12H	26.22	26.99	26.70	27.47	27.94	25.89	26.66	26.37	27.14	27.61
8H	4H	25.49	26.35	25.95	26.79	27.26	25.20	26.06	25.66	26.51	26.97
	6H	26.24	26.96	26.74	27.45	27.92	25.96	26.67	26.45	27.16	27.64
	8H	26.54	27.18	27.05	27.69	28.18	26.26	26.90	26.77	27.41	27.89
	12H	26.80	27.37	27.31	27.86	28.42	26.51	27.07	27.01	27.56	28.13
12H	4H	25.52	26.29	26.00	26.77	27.24	25.24	26.02	25.72	26.49	26.96
	6H	26.30	26.94	26.81	27.45	27.93	26.02	26.67	26.53	27.17	27.66
	8H	26.66	27.22	27.16	27.71	28.28	26.38	26.95	26.89	27.44	28.00