

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: P243290

Luminaire Tested: S123DRP-H1000D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243290
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-H1000D830-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

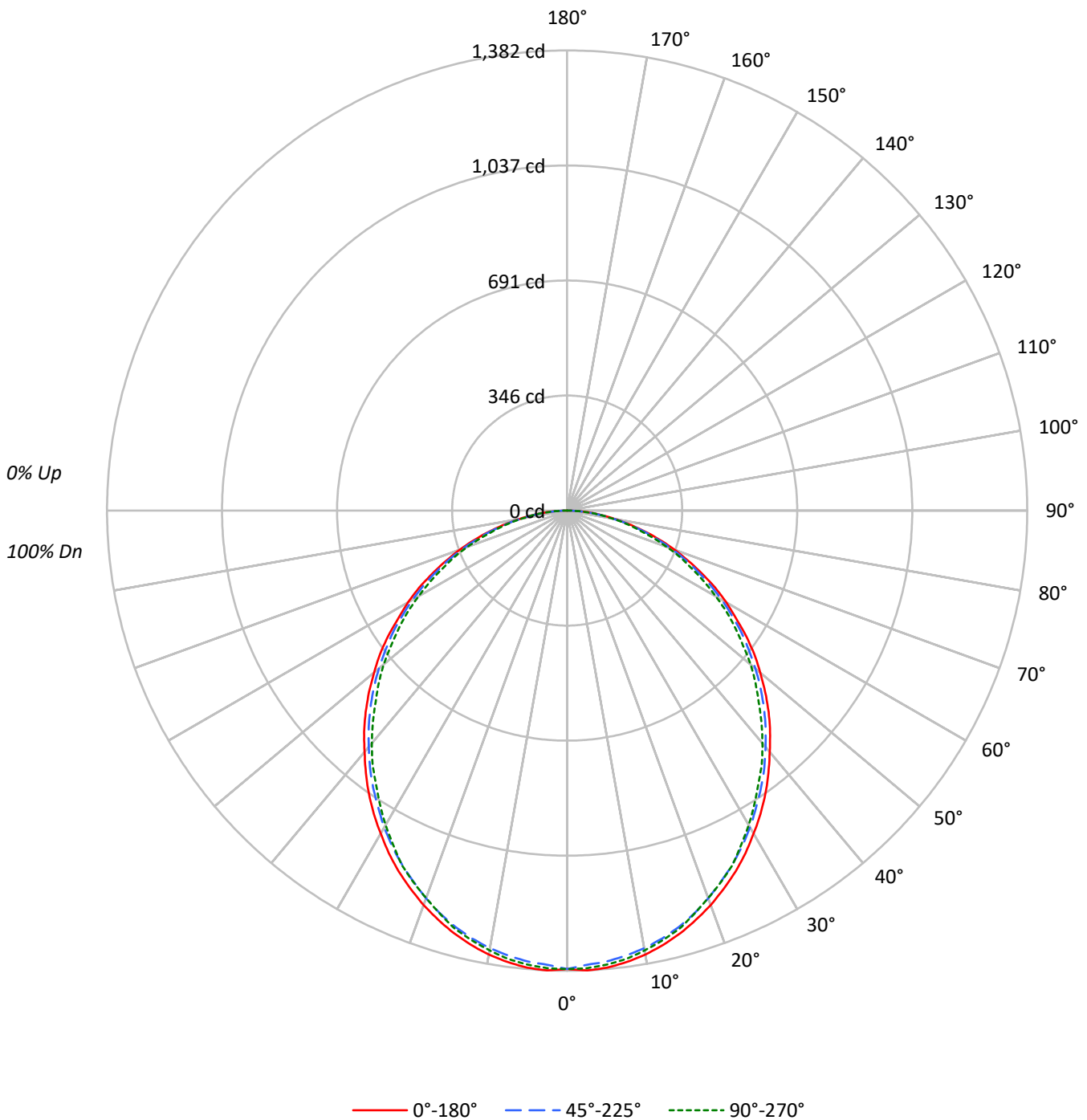
Lumens per Lamp: N/A
Luminaire Lumens: 3641.8 lumens
Efficiency: N/A
Efficacy: 115.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16687	16687	16687
5°	16764	16543	16654
10°	16665	16428	16511
15°	16492	16249	16321
20°	16265	15986	15972
25°	15998	15695	15709
30°	15679	15376	15266
35°	15365	15030	14812
40°	14977	14671	14439
45°	14668	14319	13948
50°	14275	13911	13568
55°	13863	13504	13047
60°	13372	13013	12492
65°	12792	12402	11880
70°	12145	11745	11263
75°	11268	10950	10364
80°	10142	9905	9584
85°	9471	8998	8678

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14668 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.9	3.6
10°-20°	367.3	10.1
20°-30°	543.8	14.9
30°-40°	637.7	17.5
40°-50°	644.7	17.7
50°-60°	570.2	15.7
60°-70°	428.2	11.8
70°-80°	246.8	6.8
80°-90°	73.2	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°	1040.9	28.6
0°-40°	1678.6	46.1
0°-60°	2893.6	79.5
0°-90°	3641.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3641.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1377	1377	1377	1377	1377	
5°	1378	1372	1360	1371	1369	131
15°	1314	1307	1295	1304	1301	370
25°	1196	1187	1174	1179	1175	551
35°	1038	1029	1016	1012	1001	649
45°	856	849	835	824	814	659
55°	656	651	639	626	617	586
65°	446	443	432	421	414	442
75°	241	238	234	227	221	255
85°	68	67	65	64	62	76
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1376.7	1376.7	1376.7	1376.7	1376.7
2.5°	1382.3	1377.8	1365.3	1377.8	1375.5
5°	1377.8	1372.1	1359.6	1371.0	1368.7
7.5°	1367.6	1361.9	1348.3	1360.8	1358.5
10°	1354.0	1348.3	1334.7	1344.9	1341.5
12.5°	1335.8	1330.1	1316.5	1324.4	1322.2
15°	1314.2	1307.4	1294.9	1304.0	1300.6
17.5°	1288.1	1282.5	1268.8	1280.2	1270.0
20°	1260.9	1255.2	1239.3	1249.5	1238.2
22.5°	1229.1	1222.3	1206.4	1213.2	1207.6
25°	1196.2	1187.1	1173.5	1179.2	1174.6
27.5°	1159.9	1150.8	1137.2	1139.5	1131.5
30°	1120.2	1112.2	1098.6	1100.9	1090.7
32.5°	1080.4	1073.6	1056.6	1056.6	1046.4
35°	1038.4	1029.4	1015.7	1012.3	1001.0
37.5°	993.1	985.1	972.6	966.9	960.1
40°	946.5	942.0	927.2	920.4	912.5
42.5°	902.3	894.3	881.8	872.8	863.7
45°	855.7	848.9	835.3	823.9	813.7
47.5°	806.9	801.3	787.6	775.1	767.2
50°	757.0	752.4	737.7	724.1	719.5
52.5°	708.2	702.5	687.8	675.3	666.2
55°	656.0	651.4	639.0	626.5	617.4
57.5°	600.4	600.4	586.8	575.4	568.6
60°	551.6	545.9	536.8	524.3	515.3
62.5°	500.5	497.1	484.6	472.1	465.3
65°	446.0	442.6	432.4	421.1	414.2
67.5°	392.7	391.5	382.5	373.4	368.8
70°	342.7	340.5	331.4	322.3	317.8
72.5°	291.7	289.4	281.5	273.5	267.8
75°	240.6	238.3	233.8	227.0	221.3
77.5°	190.7	190.7	185.0	182.7	180.5
80°	145.3	144.1	141.9	139.6	137.3
82.5°	104.4	103.3	101.0	99.9	99.9
85°	68.1	67.0	64.7	63.6	62.4
87.5°	35.2	32.9	31.8	29.5	28.4
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	21.23	22.86	21.59	23.17	23.48	20.92	22.54	21.28	22.86	23.17
	3H	23.03	24.50	23.40	24.82	25.18	22.67	24.14	23.05	24.47	24.83
	4H	23.70	25.09	24.10	25.44	25.81	23.32	24.71	23.72	25.06	25.43
	6H	24.20	25.49	24.61	25.85	26.24	23.82	25.11	24.24	25.47	25.86
	8H	24.37	25.60	24.79	25.98	26.38	24.00	25.22	24.42	25.61	26.01
	12H	24.49	25.67	24.92	26.05	26.48	24.12	25.29	24.55	25.67	26.10
4H	2H	21.82	23.21	22.22	23.55	23.93	21.58	22.96	21.97	23.31	23.68
	3H	23.85	25.01	24.26	25.40	25.80	23.55	24.71	23.96	25.11	25.51
	4H	24.66	25.71	25.09	26.12	26.56	24.33	25.38	24.76	25.79	26.23
	6H	25.29	26.20	25.74	26.65	27.10	24.96	25.88	25.41	26.32	26.77
	8H	25.50	26.36	25.96	26.81	27.27	25.18	26.04	25.64	26.48	26.95
	12H	25.68	26.45	26.16	26.93	27.40	25.35	26.12	25.83	26.60	27.07
8H	4H	24.95	25.81	25.41	26.25	26.72	24.66	25.52	25.12	25.96	26.43
	6H	25.70	26.42	26.20	26.91	27.38	25.42	26.13	25.91	26.62	27.10
	8H	26.00	26.64	26.51	27.15	27.64	25.72	26.36	26.23	26.87	27.35
	12H	26.26	26.83	26.77	27.32	27.88	25.97	26.53	26.47	27.02	27.59
12H	4H	24.98	25.76	25.46	26.23	26.70	24.70	25.48	25.18	25.95	26.42
	6H	25.76	26.40	26.27	26.91	27.40	25.48	26.13	25.99	26.63	27.12
	8H	26.12	26.69	26.62	27.18	27.74	25.84	26.41	26.35	26.90	27.46