

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: P735873

Luminaire Tested: S122DRP-S485D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735873
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S485D840-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

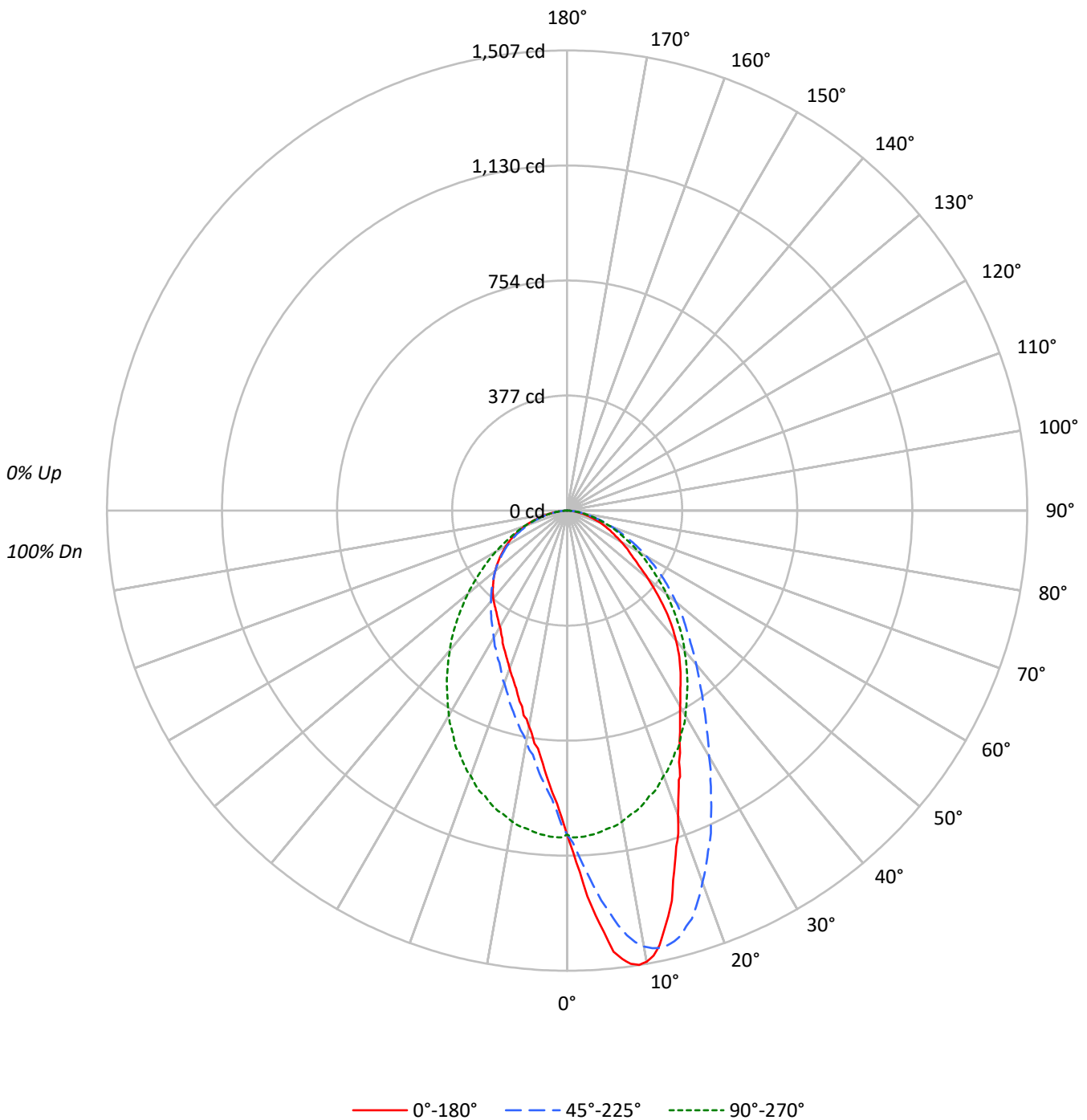
Lumens per Lamp: N/A
Luminaire Lumens: 2158.9 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 19.6
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	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	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76					74				
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66					64				
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58					56				
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51					49				
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46					44				
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41					39				
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37					35				
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	20396	20396	20396	20396	20396
5°	26748	24722	20501	17195	16406
10°	29279	28297	20197	15031	14006
15°	26339	28661	19649	13569	12421
20°	21733	26507	18900	12306	11262
25°	18574	23647	18235	11383	10439
30°	16429	20652	17190	10667	9777
35°	15196	18293	16120	10165	9496
40°	13906	16505	15005	9736	9442
45°	12251	15065	13877	9435	9318
50°	10314	13890	12715	9180	9201
55°	8676	12781	11488	8870	9041
60°	7823	11552	10429	8607	8857
65°	7100	10151	9287	8191	8691
70°	6395	8773	8362	7581	8239
75°	5577	7419	7152	6877	7531
80°	4682	5811	5811	5977	6298
85°	3529	4190	4345	4653	4499

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 22124 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.4	4.8
10°-20°	286.6	13.3
20°-30°	375.8	17.4
30°-40°	397.2	18.4
40°-50°	368.8	17.1
50°-60°	295.2	13.7
60°-70°	201.9	9.4
70°-80°	104.2	4.8
80°-90°	24.7	1.1
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°	766.9	35.5
0°-40°	1164.1	53.9
0°-60°	1828.1	84.7
0°-90°	2158.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2158.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1061	1061	1061	1061	1061	
5°	1386	1281	1062	891	850	137
15°	1324	1440	987	682	624	363
25°	876	1115	860	537	492	404
35°	648	780	687	433	405	404
45°	451	554	510	347	343	346
55°	259	381	343	265	270	237
65°	156	223	204	180	191	155
75°	75	100	96	93	101	80
85°	16	19	20	21	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1061.1	1061.1	1061.1	1061.1	1061.1	1061.1	1061.1	1061.1	1061.1
1°	1119.4	1113.6	1088.1	1089.5	1070.5	1049.4	1029.7	1017.3	1007.1
2°	1185.0	1173.4	1133.3	1113.6	1070.5	1025.3	984.5	973.6	959.7
3°	1264.5	1236.8	1181.4	1134.7	1069.1	1003.5	947.3	927.6	925.4
4°	1328.7	1303.9	1230.3	1156.6	1065.4	982.3	918.9	897.7	887.5
5°	1386.3	1370.3	1281.3	1184.3	1062.5	961.9	891.2	862.0	850.3
6°	1452.7	1419.9	1322.1	1212.0	1057.4	942.2	866.4	831.4	815.3
7°	1479.7	1459.2	1368.1	1230.3	1050.9	919.6	835.0	797.1	785.4
8°	1498.6	1490.6	1404.5	1260.2	1047.9	898.4	807.3	784.0	770.1
9°	1506.6	1500.1	1430.8	1272.6	1042.8	887.5	793.4	754.8	739.5
10°	1500.1	1503.0	1449.8	1291.5	1034.8	864.9	770.1	736.5	717.6
11°	1484.8	1492.1	1460.0	1313.4	1024.6	846.7	748.9	714.7	696.4
12°	1455.6	1471.6	1464.3	1328.7	1015.1	830.6	734.4	701.5	685.5
13°	1410.4	1446.1	1461.4	1335.3	1009.3	812.4	716.1	678.2	657.8
14°	1369.5	1406.7	1453.4	1349.9	999.1	792.0	699.4	661.4	643.9
15°	1323.6	1366.6	1440.3	1354.2	987.4	775.2	681.9	640.3	624.2
16°	1259.4	1317.0	1416.2	1359.3	973.6	756.2	665.8	626.4	605.3
17°	1206.2	1268.2	1398.0	1362.3	966.3	741.7	652.0	605.3	591.4
18°	1157.3	1227.3	1365.2	1360.1	954.6	724.9	631.5	590.0	576.8
19°	1118.7	1175.6	1332.4	1355.0	938.6	708.8	616.2	579.0	563.7
20°	1062.5	1128.2	1295.9	1352.8	924.0	694.3	601.6	563.7	550.6
21°	1015.9	1082.9	1262.3	1345.5	913.8	680.4	590.7	549.1	537.5
22.5°	954.6	1013.7	1206.2	1331.6	891.2	657.1	566.6	535.3	519.2
23°	947.3	997.6	1191.6	1327.2	884.6	652.0	558.6	527.3	514.1
24°	901.4	954.6	1157.3	1313.4	867.8	635.9	545.5	517.8	502.5
25°	875.8	919.6	1115.0	1300.3	859.8	621.3	536.7	505.4	492.2
26°	840.1	890.4	1077.1	1281.3	842.3	608.2	522.9	494.4	482.0
27°	813.9	856.1	1037.7	1267.4	821.9	594.3	511.9	483.5	468.2
28°	788.3	829.2	999.8	1244.8	807.3	579.0	503.9	474.0	459.4
29°	762.1	797.8	969.2	1227.3	793.4	565.9	491.5	461.6	447.8
30°	740.2	773.0	930.5	1204.0	774.5	550.6	480.6	452.9	440.5
32.5°	689.9	717.6	851.8	1148.6	729.3	520.0	454.3	428.8	421.5
35°	647.6	665.8	779.6	1086.6	687.0	487.1	433.2	408.4	404.7
37.5°	603.1	620.6	713.9	1021.7	642.5	457.2	409.1	393.1	390.2
40°	554.2	577.6	657.8	957.5	598.0	428.1	388.0	375.6	376.3
42.5°	505.4	532.4	603.1	882.4	556.4	400.4	367.5	358.8	360.3
45°	450.7	485.0	554.2	813.9	510.5	374.1	347.1	342.8	342.8
47.5°	393.8	437.6	511.9	743.1	466.7	347.9	327.4	324.5	326.0
50°	344.9	384.3	464.5	674.6	425.2	323.8	307.0	306.3	307.7
52.5°	296.8	336.2	423.0	610.4	382.9	301.9	287.3	287.3	288.8
55°	258.9	289.5	381.4	543.3	342.8	276.4	264.7	266.9	269.8
57.5°	232.6	253.1	340.6	479.1	305.6	251.6	244.3	245.8	249.4
60°	203.5	219.5	300.5	420.1	271.3	227.5	223.9	226.8	230.4
62.5°	177.2	191.1	262.5	366.8	234.1	204.2	202.7	207.1	210.8
65°	156.1	165.5	223.2	312.9	204.2	180.9	180.1	186.7	191.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	134.2	141.5	188.9	261.8	174.3	157.5	157.5	164.8	168.5
70°	113.8	119.6	156.1	215.9	148.8	134.2	134.9	143.7	146.6
72.5°	92.6	97.7	126.9	173.6	120.3	112.3	114.5	121.8	124.7
75°	75.1	78.8	99.9	137.1	96.3	89.7	92.6	99.2	101.4
77.5°	57.6	60.5	73.7	100.6	73.7	70.0	72.9	78.8	78.8
80°	42.3	43.0	52.5	70.7	52.5	50.3	54.0	56.9	56.9
82.5°	27.7	29.2	34.3	45.2	35.0	34.3	35.7	37.9	37.9
85°	16.0	16.8	19.0	24.8	19.7	19.7	21.1	21.1	20.4
87.5°	6.6	7.3	8.0	9.5	8.8	9.5	9.5	8.0	8.8
90°	0.0	0.0	0.0	0.0	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	19.70	21.22	20.06	21.53	21.85	19.27	20.79	19.64	21.11	21.42
	3H	20.90	22.26	21.28	22.59	22.95	20.78	22.15	21.16	22.48	22.84
	4H	21.30	22.58	21.70	22.93	23.31	21.31	22.59	21.71	22.94	23.32
	6H	21.55	22.73	21.96	23.10	23.49	21.66	22.85	22.08	23.21	23.61
	8H	21.61	22.74	22.04	23.13	23.53	21.76	22.89	22.19	23.28	23.68
	12H	21.64	22.72	22.07	23.10	23.53	21.81	22.89	22.24	23.27	23.70
4H	2H	20.75	22.04	21.15	22.38	22.76	20.34	21.62	20.74	21.97	22.35
	3H	22.11	23.18	22.52	23.58	23.98	21.97	23.03	22.38	23.43	23.83
	4H	22.58	23.53	23.01	23.95	24.39	22.55	23.51	22.98	23.92	24.36
	6H	22.89	23.72	23.35	24.17	24.62	22.97	23.80	23.43	24.25	24.71
	8H	22.97	23.75	23.43	24.19	24.66	23.09	23.87	23.55	24.31	24.78
	12H	23.02	23.71	23.50	24.19	24.66	23.16	23.86	23.64	24.34	24.81
8H	4H	22.93	23.71	23.40	24.16	24.62	22.89	23.67	23.35	24.11	24.58
	6H	23.33	23.98	23.83	24.47	24.95	23.41	24.05	23.91	24.54	25.02
	8H	23.46	24.03	23.97	24.54	25.03	23.58	24.15	24.09	24.66	25.15
	12H	23.54	24.05	24.05	24.54	25.11	23.70	24.21	24.21	24.70	25.27
12H	4H	22.95	23.65	23.44	24.13	24.60	22.91	23.60	23.39	24.08	24.55
	6H	23.38	23.96	23.89	24.47	24.95	23.45	24.03	23.96	24.54	25.03
	8H	23.55	24.06	24.06	24.55	25.11	23.67	24.18	24.18	24.67	25.23