

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735872

Luminaire Tested: S122DR-S485D835-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2019
Report Number: P735872
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: S122DR-S485D835-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2137.8 lumens
Efficiency: N/A
Efficacy: 109.1 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

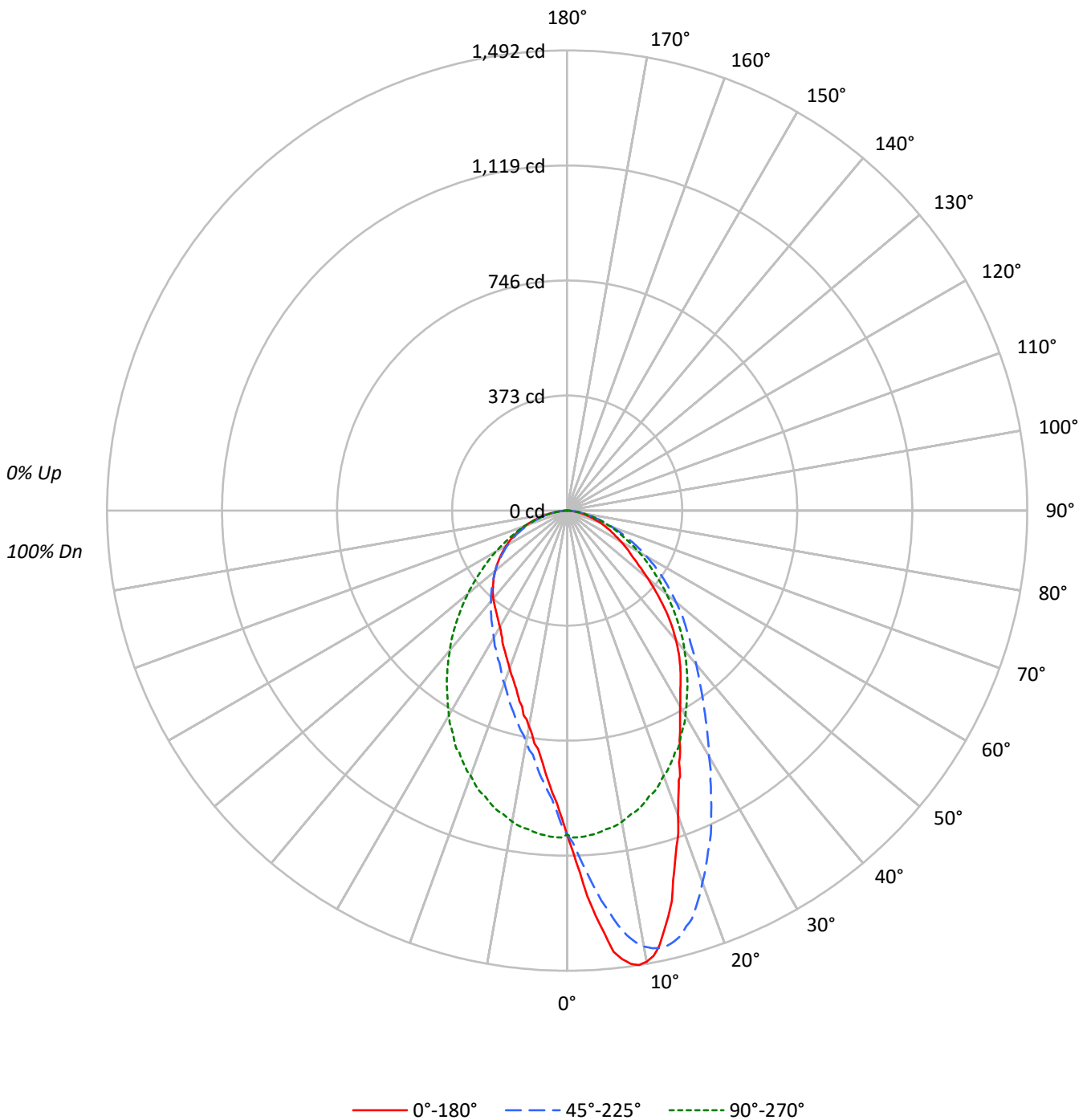
Input Watts (W): 19.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	20196	20196	20196	20196	20196
5°	26488	24481	20300	17026	16246
10°	28992	28020	20000	14884	13869
15°	26082	28380	19458	13436	12300
20°	21521	26248	18714	12187	11152
25°	18394	23416	18057	11272	10337
30°	16269	20450	17021	10563	9681
35°	15048	18115	15961	10064	9405
40°	13770	16345	14857	9640	9349
45°	12132	14918	13741	9343	9226
50°	10215	13755	12589	9091	9111
55°	8592	12657	11374	8783	8954
60°	7746	11437	10326	8523	8773
65°	7027	10051	9196	8114	8605
70°	6334	8683	8278	7508	8155
75°	5525	7345	7077	6810	7456
80°	4638	5756	5756	5911	6232
85°	3507	4146	4301	4609	4455

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 21907 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.4	4.8
10°-20°	283.8	13.3
20°-30°	372.2	17.4
30°-40°	393.4	18.4
40°-50°	365.2	17.1
50°-60°	292.3	13.7
60°-70°	199.9	9.4
70°-80°	103.2	4.8
80°-90°	24.5	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°	759.4	35.5
0°-40°	1152.7	53.9
0°-60°	1810.2	84.7
0°-90°	2137.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2137.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1051	1051	1051	1051	1051	
5°	1373	1269	1052	882	842	135
15°	1311	1426	978	675	618	360
25°	867	1104	851	532	487	400
35°	641	772	680	429	401	400
45°	446	549	506	344	339	343
55°	256	378	339	262	267	235
65°	154	221	202	178	189	153
75°	74	99	95	92	100	79
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°	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7	1050.7
1°	1108.5	1102.7	1077.4	1078.9	1060.1	1039.1	1019.7	1007.4	997.3
2°	1173.5	1161.9	1122.2	1102.7	1060.1	1015.3	974.9	964.0	950.3
3°	1252.2	1224.7	1169.9	1123.6	1058.6	993.7	938.0	918.6	916.4
4°	1315.7	1291.2	1218.2	1145.3	1055.0	972.7	909.9	888.9	878.8
5°	1372.8	1356.9	1268.8	1172.7	1052.1	952.5	882.4	853.6	842.0
6°	1438.5	1406.0	1309.2	1200.2	1047.1	933.0	857.9	823.2	807.3
7°	1465.2	1445.0	1354.7	1218.2	1040.6	910.6	826.8	789.3	777.7
8°	1484.0	1476.0	1390.8	1247.8	1037.7	889.7	799.4	776.3	762.6
9°	1491.9	1485.4	1416.8	1260.1	1032.6	878.8	785.7	747.4	732.2
10°	1485.4	1488.3	1435.6	1278.9	1024.7	856.4	762.6	729.4	710.6
11°	1470.3	1477.5	1445.7	1300.6	1014.6	838.4	741.6	707.7	689.6
12°	1441.4	1457.3	1450.0	1315.7	1005.2	822.5	727.2	694.7	678.8
13°	1396.6	1432.0	1447.2	1322.2	999.4	804.5	709.1	671.6	651.4
14°	1356.2	1393.0	1439.2	1336.7	989.3	784.2	692.5	655.0	637.6
15°	1310.7	1353.3	1426.2	1341.0	977.8	767.6	675.2	634.0	618.1
16°	1247.1	1304.2	1402.4	1346.1	964.0	748.9	659.3	620.3	599.4
17°	1194.4	1255.8	1384.3	1348.9	956.8	734.4	645.6	599.4	585.6
18°	1146.0	1215.3	1351.8	1346.8	945.3	717.8	625.4	584.2	571.2
19°	1107.8	1164.1	1319.3	1341.7	929.4	701.9	610.2	573.4	558.2
20°	1052.1	1117.1	1283.2	1339.6	914.9	687.5	595.8	558.2	545.2
21°	1005.9	1072.4	1250.0	1332.3	904.8	673.7	584.9	543.8	532.2
22.5°	945.3	1003.8	1194.4	1318.6	882.4	650.6	561.1	530.0	514.2
23°	938.0	987.9	1180.0	1314.3	875.9	645.6	553.2	522.1	509.1
24°	892.6	945.3	1146.0	1300.6	859.3	629.7	540.2	512.7	497.5
25°	867.3	910.6	1104.1	1287.6	851.4	615.3	531.5	500.4	487.4
26°	831.9	881.7	1066.6	1268.8	834.1	602.3	517.8	489.6	477.3
27°	805.9	847.8	1027.6	1255.1	813.8	588.5	506.9	478.8	463.6
28°	780.6	821.1	990.0	1232.7	799.4	573.4	499.0	469.4	454.9
29°	754.6	790.0	959.7	1215.3	785.7	560.4	486.7	457.1	443.4
30°	733.0	765.5	921.4	1192.2	766.9	545.2	475.9	448.4	436.2
32.5°	683.1	710.6	843.5	1137.4	722.1	514.9	449.9	424.6	417.4
35°	641.3	659.3	772.0	1076.0	680.2	482.4	428.9	404.4	400.8
37.5°	597.2	614.5	707.0	1011.7	636.2	452.8	405.1	389.2	386.3
40°	548.8	571.9	651.4	948.2	592.1	423.9	384.2	371.9	372.6
42.5°	500.4	527.2	597.2	873.8	551.0	396.5	364.0	355.3	356.7
45°	446.3	480.2	548.8	805.9	505.5	370.5	343.7	339.4	339.4
47.5°	390.0	433.3	506.9	735.9	462.2	344.5	324.2	321.3	322.8
50°	341.6	380.6	460.0	668.0	421.0	320.6	304.0	303.3	304.7
52.5°	293.9	332.9	418.8	604.4	379.1	299.0	284.5	284.5	286.0
55°	256.4	286.7	377.7	538.0	339.4	273.7	262.1	264.3	267.2
57.5°	230.4	250.6	337.2	474.4	302.6	249.1	241.9	243.4	247.0
60°	201.5	217.4	297.5	415.9	268.6	225.3	221.7	224.6	228.2
62.5°	175.5	189.2	260.0	363.2	231.8	202.2	200.8	205.1	208.7
65°	154.5	163.9	221.0	309.8	202.2	179.1	178.4	184.9	189.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	132.9	140.1	187.0	259.2	172.6	156.0	156.0	163.2	166.8
70°	112.7	118.4	154.5	213.8	147.3	132.9	133.6	142.3	145.1
72.5°	91.7	96.8	125.7	171.9	119.2	111.2	113.4	120.6	123.5
75°	74.4	78.0	98.9	135.8	95.3	88.8	91.7	98.2	100.4
77.5°	57.0	59.9	72.9	99.7	72.9	69.3	72.2	78.0	78.0
80°	41.9	42.6	52.0	70.0	52.0	49.8	53.4	56.3	56.3
82.5°	27.4	28.9	33.9	44.8	34.7	33.9	35.4	37.6	37.6
85°	15.9	16.6	18.8	24.6	19.5	19.5	20.9	20.9	20.2
87.5°	6.5	7.2	7.9	9.4	8.7	9.4	9.4	7.9	8.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)