

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P929838

Luminaire Tested: DFN2DS-4P2F0-040DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929838
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P2F0-040DS940-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

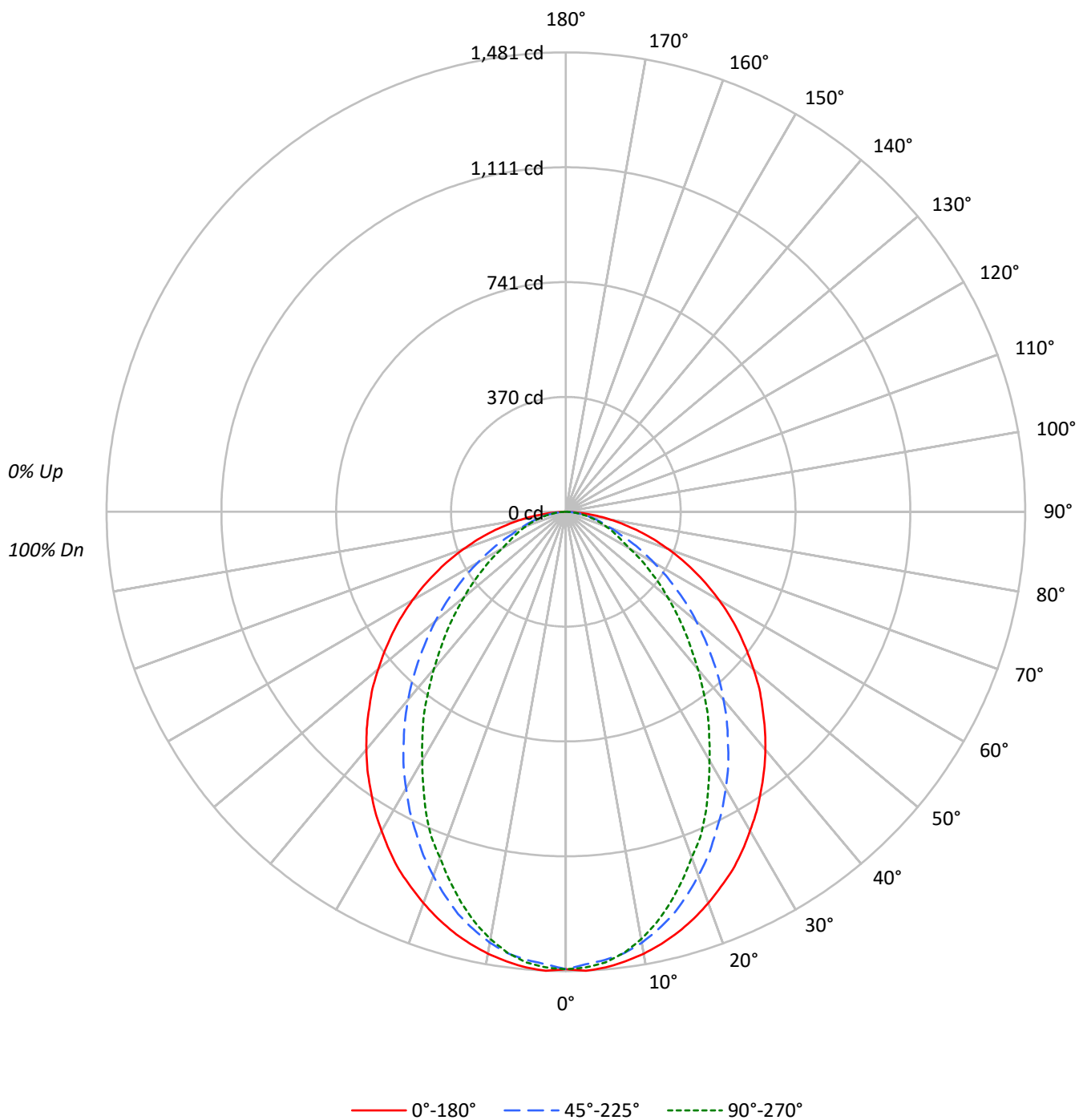
Lumens per Lamp: N/A
Luminaire Lumens: 3032.8 lumens
Efficiency: N/A
Efficacy: 70.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3693	3693	3693
5°	3707	3646	3667
10°	3678	3587	3556
15°	3636	3480	3380
20°	3577	3328	3161
25°	3518	3156	2949
30°	3434	2979	2678
35°	3354	2786	2439
40°	3272	2587	2164
45°	3176	2363	1914
50°	3077	2137	1669
55°	2977	1893	1433
60°	2860	1637	1190
65°	2728	1376	1083
70°	2570	1133	996
75°	2375	1033	931
80°	2097	923	848
85°	1649	727	727

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3176 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	4.6
10°-20°	379.4	12.5
20°-30°	532.7	17.6
30°-40°	580.6	19.1
40°-50°	533.7	17.6
50°-60°	419.1	13.8
60°-70°	272.8	9.0
70°-80°	140.4	4.6
80°-90°	35.9	1.2
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°	1050.3	34.6
0°-40°	1630.9	53.8
0°-60°	2583.7	85.2
0°-90°	3032.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3032.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1475	1475	1475	1475	1475	
5°	1475	1468	1451	1463	1459	140
15°	1403	1388	1342	1317	1304	395
25°	1273	1230	1142	1088	1068	586
35°	1097	1029	912	827	798	687
45°	897	807	667	572	540	693
55°	682	578	434	354	328	609
65°	460	352	232	187	183	457
75°	246	152	107	97	96	260
85°	57	29	25	25	25	69
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1474.7	1474.7	1474.7	1474.7	1474.7
2.5°	1481.3	1474.7	1459.9	1473.4	1470.6
5°	1474.7	1468.0	1450.6	1462.6	1458.7
7.5°	1462.6	1454.7	1436.0	1441.2	1434.6
10°	1446.6	1437.3	1410.6	1406.5	1398.7
12.5°	1426.7	1414.6	1378.5	1370.6	1355.8
15°	1402.6	1387.9	1342.5	1317.2	1303.9
17.5°	1374.6	1353.2	1297.1	1267.8	1246.4
20°	1342.5	1315.8	1249.1	1215.8	1186.4
22.5°	1307.9	1277.2	1199.7	1154.3	1134.4
25°	1273.2	1230.4	1142.3	1087.7	1067.5
27.5°	1231.9	1186.4	1089.0	1026.2	995.5
30°	1187.8	1136.9	1030.2	962.2	926.2
32.5°	1145.1	1083.6	974.2	894.1	860.7
35°	1097.1	1028.9	911.5	827.4	798.0
37.5°	1050.3	976.8	852.8	760.6	727.3
40°	1000.9	920.9	791.4	696.7	662.0
42.5°	950.2	864.8	730.0	631.2	597.9
45°	896.8	807.3	667.3	572.5	540.5
47.5°	846.2	751.4	607.3	512.5	483.1
50°	790.0	695.3	548.5	456.3	428.4
52.5°	735.3	635.2	492.5	404.3	379.0
55°	681.9	577.8	433.7	353.7	328.3
57.5°	627.3	520.5	381.7	306.9	285.6
60°	571.1	464.4	326.9	258.9	237.6
62.5°	516.6	409.8	280.2	216.2	205.6
65°	460.5	352.3	232.2	186.9	182.8
67.5°	407.1	298.9	186.9	164.1	160.1
70°	351.0	246.9	154.8	141.5	136.0
72.5°	297.7	198.8	129.4	118.8	116.1
75°	245.5	152.1	106.8	97.4	96.2
77.5°	193.6	108.0	84.1	78.8	76.0
80°	145.4	77.4	64.0	58.8	58.8
82.5°	101.4	52.1	44.1	41.3	41.3
85°	57.4	29.3	25.3	25.3	25.3
87.5°	21.4	10.6	10.6	9.4	9.4
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	15.77	17.30	16.14	17.61	17.92	11.73	13.25	12.10	13.57	13.88
	3H	17.54	18.90	17.92	19.23	19.59	13.00	14.36	13.38	14.69	15.05
	4H	18.21	19.49	18.60	19.83	20.21	13.50	14.78	13.90	15.13	15.51
	6H	18.69	19.88	19.11	20.24	20.64	13.88	15.06	14.29	15.43	15.82
	8H	18.86	19.99	19.29	20.38	20.78	14.01	15.13	14.43	15.52	15.92
	12H	18.96	20.04	19.39	20.42	20.85	14.09	15.16	14.52	15.55	15.98
4H	2H	15.88	17.16	16.28	17.51	17.89	12.43	13.71	12.83	14.06	14.44
	3H	17.81	18.87	18.22	19.27	19.67	13.87	14.93	14.28	15.33	15.74
	4H	18.56	19.52	18.99	19.93	20.37	14.47	15.43	14.90	15.84	16.28
	6H	19.15	19.98	19.61	20.43	20.89	14.96	15.79	15.42	16.23	16.69
	8H	19.37	20.14	19.83	20.59	21.06	15.12	15.90	15.59	16.34	16.81
	12H	19.52	20.21	20.00	20.69	21.16	15.24	15.93	15.72	16.41	16.88
8H	4H	18.58	19.36	19.05	19.81	20.27	14.83	15.60	15.29	16.05	16.51
	6H	19.22	19.86	19.72	20.36	20.83	15.41	16.06	15.91	16.55	17.02
	8H	19.47	20.05	19.99	20.56	21.05	15.63	16.21	16.15	16.72	17.21
	12H	19.68	20.19	20.19	20.68	21.24	15.81	16.32	16.32	16.81	17.38
12H	4H	18.57	19.26	19.05	19.74	20.21	14.87	15.56	15.35	16.04	16.51
	6H	19.20	19.78	19.72	20.29	20.78	15.48	16.05	15.99	16.56	17.05
	8H	19.49	20.00	20.00	20.49	21.05	15.75	16.26	16.26	16.75	17.32