

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: P930650

Luminaire Tested: DFN2DS-PN4F0-040DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930650
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-PN4F0-040DS950-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

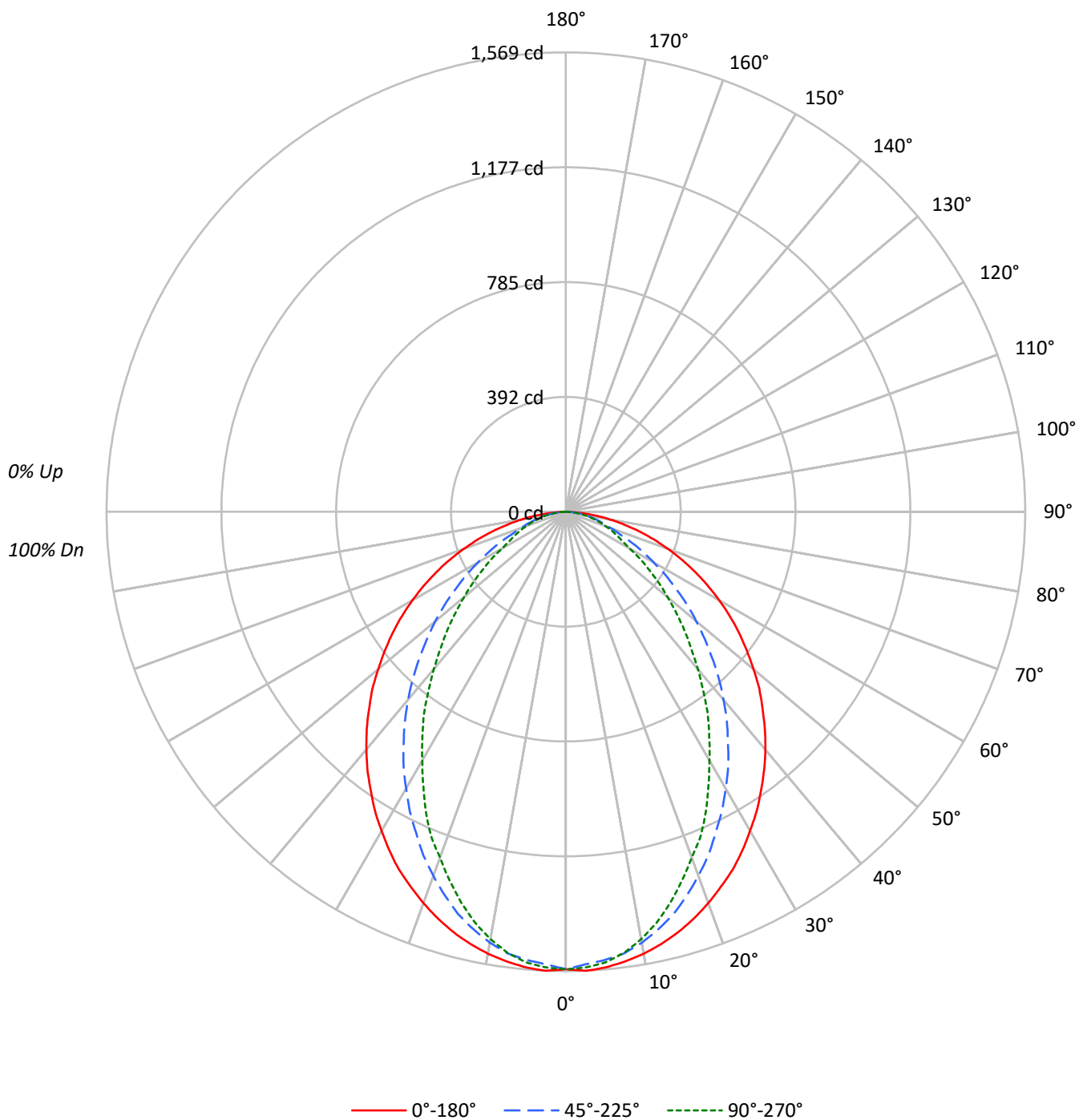
Lumens per Lamp: N/A
Luminaire Lumens: 3213.0 lumens
Efficiency: N/A
Efficacy: 84.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 38.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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°	1140	1140	1140
5°	1145	1126	1132
10°	1136	1108	1098
15°	1123	1075	1044
20°	1105	1028	976
25°	1086	975	911
30°	1061	920	827
35°	1036	861	753
40°	1010	799	668
45°	981	730	591
50°	951	660	515
55°	919	585	443
60°	883	506	367
65°	843	425	334
70°	794	350	308
75°	734	319	287
80°	647	285	262
85°	509	224	224

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 981 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.4	4.6
10°-20°	401.9	12.5
20°-30°	564.3	17.6
30°-40°	615.1	19.1
40°-50°	565.4	17.6
50°-60°	444.0	13.8
60°-70°	289.0	9.0
70°-80°	148.8	4.6
80°-90°	38.0	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°	1112.7	34.6
0°-40°	1727.8	53.8
0°-60°	2737.2	85.2
0°-90°	3213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1562	1562	1562	1562	1562	
5°	1562	1555	1537	1550	1545	148
15°	1486	1470	1422	1396	1381	419
25°	1349	1304	1210	1152	1131	620
35°	1162	1090	966	877	845	727
45°	950	855	707	606	573	734
55°	722	612	460	375	348	646
65°	488	373	246	198	194	484
75°	260	161	113	103	102	275
85°	61	31	27	27	27	73
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1562.3	1562.3	1562.3	1562.3	1562.3
2.5°	1569.4	1562.3	1546.7	1561.0	1558.0
5°	1562.3	1555.2	1536.8	1549.5	1545.4
7.5°	1549.5	1541.1	1521.4	1526.8	1519.8
10°	1532.6	1522.7	1494.4	1490.1	1481.8
12.5°	1511.4	1498.7	1460.4	1452.0	1436.4
15°	1485.9	1470.3	1422.3	1395.5	1381.4
17.5°	1456.2	1433.6	1374.1	1343.1	1320.4
20°	1422.3	1394.0	1323.3	1288.0	1256.8
22.5°	1385.6	1353.1	1270.9	1222.9	1201.9
25°	1348.8	1303.5	1210.2	1152.3	1131.0
27.5°	1305.0	1256.8	1153.7	1087.2	1054.6
30°	1258.4	1204.5	1091.4	1019.4	981.2
32.5°	1213.1	1148.0	1032.1	947.3	911.8
35°	1162.3	1090.1	965.7	876.6	845.4
37.5°	1112.7	1034.9	903.4	805.8	770.6
40°	1060.4	975.6	838.4	738.0	701.3
42.5°	1006.6	916.2	773.4	668.7	633.4
45°	950.1	855.3	707.0	606.5	572.6
47.5°	896.4	796.1	643.4	542.9	511.8
50°	837.0	736.6	581.1	483.5	453.9
52.5°	779.0	672.9	521.7	428.4	401.5
55°	722.5	612.2	459.5	374.7	347.9
57.5°	664.5	551.4	404.4	325.2	302.6
60°	605.1	492.0	346.3	274.3	251.7
62.5°	547.2	434.1	296.8	229.1	217.8
65°	487.8	373.2	246.0	198.0	193.6
67.5°	431.3	316.7	198.0	173.9	169.6
70°	371.9	261.6	164.0	149.9	144.1
72.5°	315.3	210.6	137.1	125.9	123.0
75°	260.1	161.1	113.1	103.2	101.9
77.5°	205.1	114.4	89.1	83.4	80.5
80°	154.0	82.0	67.8	62.3	62.3
82.5°	107.4	55.2	46.7	43.8	43.8
85°	60.8	31.1	26.8	26.8	26.8
87.5°	22.7	11.2	11.2	9.9	9.9
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	11.69	13.21	12.06	13.53	13.84	7.65	9.17	8.02	9.49	9.80
	3H	13.46	14.82	13.83	15.15	15.51	8.92	10.28	9.29	10.61	10.97
	4H	14.12	15.40	14.52	15.75	16.13	9.42	10.70	9.82	11.05	11.43
	6H	14.61	15.79	15.02	16.16	16.55	9.80	10.98	10.21	11.35	11.74
	8H	14.78	15.90	15.20	16.29	16.69	9.92	11.05	10.35	11.44	11.84
	12H	14.88	15.96	15.31	16.34	16.77	10.01	11.08	10.44	11.47	11.89
4H	2H	11.79	13.08	12.19	13.42	13.80	8.35	9.63	8.75	9.98	10.36
	3H	13.73	14.79	14.14	15.19	15.59	9.79	10.85	10.20	11.25	11.65
	4H	14.48	15.43	14.91	15.85	16.29	10.39	11.35	10.82	11.76	12.20
	6H	15.07	15.90	15.53	16.34	16.80	10.88	11.71	11.34	12.15	12.61
	8H	15.28	16.06	15.75	16.51	16.97	11.04	11.82	11.50	12.26	12.73
	12H	15.44	16.13	15.92	16.61	17.08	11.16	11.85	11.64	12.33	12.80
8H	4H	14.50	15.28	14.97	15.72	16.19	10.74	11.52	11.21	11.97	12.43
	6H	15.14	15.78	15.64	16.27	16.75	11.33	11.97	11.83	12.46	12.94
	8H	15.39	15.97	15.90	16.48	16.96	11.55	12.13	12.07	12.64	13.13
	12H	15.59	16.10	16.10	16.60	17.16	11.73	12.24	12.24	12.73	13.30
12H	4H	14.49	15.18	14.97	15.66	16.13	10.79	11.48	11.27	11.96	12.43
	6H	15.12	15.70	15.63	16.21	16.70	11.39	11.97	11.91	12.48	12.97
	8H	15.40	15.91	15.91	16.41	16.97	11.67	12.18	12.18	12.67	13.23