

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: P929980

Luminaire Tested: DFN2DS-4P4F0-050DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929980
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-4P4F0-050DS935-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

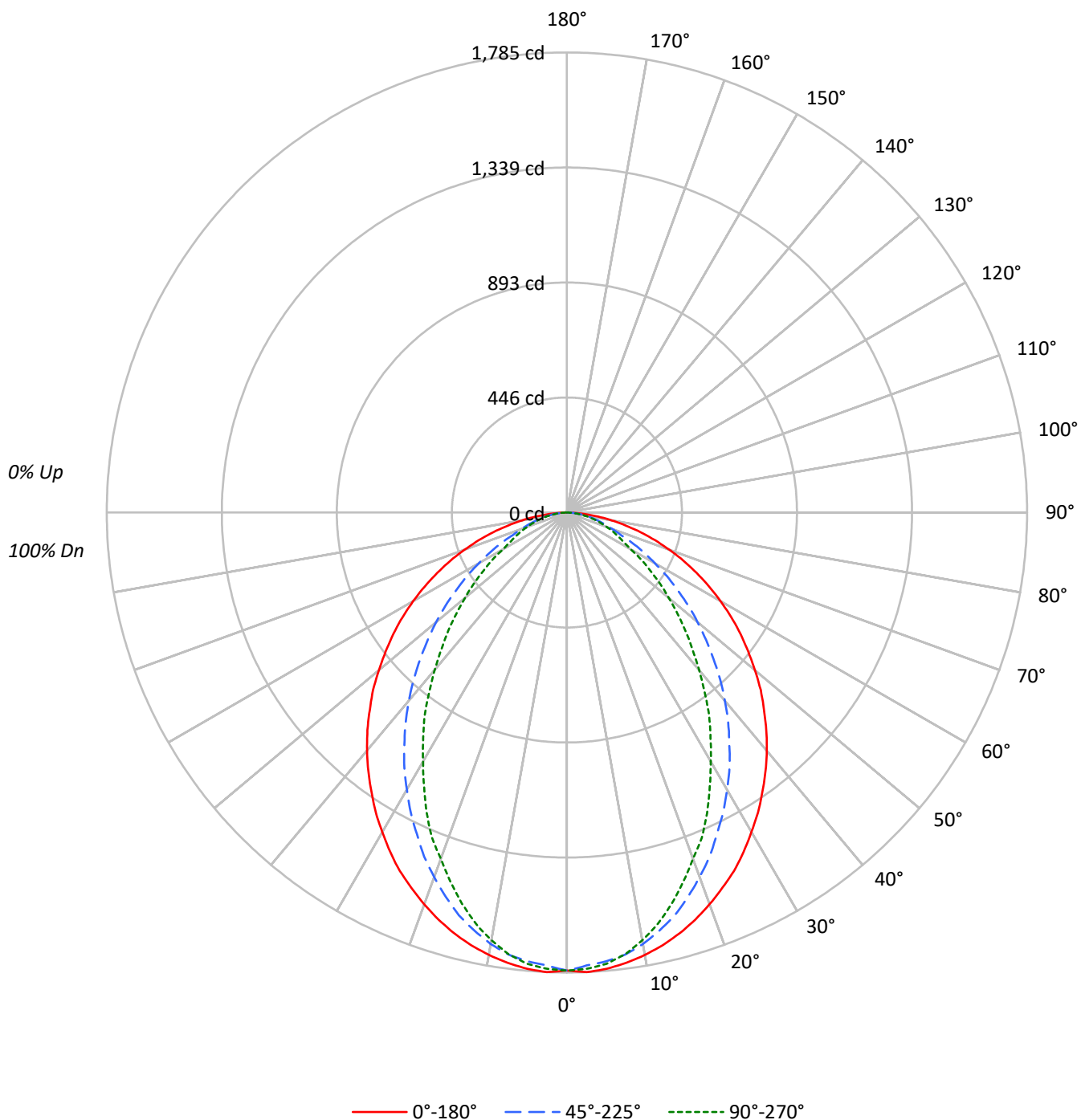
Lumens per Lamp: N/A
Luminaire Lumens: 3655.0 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 50.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	1153	1153	1153
5°	1157	1138	1145
10°	1148	1120	1110
15°	1135	1087	1055
20°	1117	1039	987
25°	1098	985	921
30°	1072	930	836
35°	1047	870	762
40°	1021	808	676
45°	992	738	598
50°	961	667	521
55°	929	591	448
60°	893	511	371
65°	852	430	338
70°	802	354	311
75°	742	323	290
80°	655	288	265
85°	514	227	227

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 992 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.6	4.6
10°-20°	457.2	12.5
20°-30°	641.9	17.6
30°-40°	699.8	19.1
40°-50°	643.2	17.6
50°-60°	505.1	13.8
60°-70°	328.8	9.0
70°-80°	169.3	4.6
80°-90°	43.2	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°	1265.8	34.6
0°-40°	1965.5	53.8
0°-60°	3113.8	85.2
0°-90°	3655.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3655.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1777	1777	1777	1777	1777	
5°	1777	1769	1748	1763	1758	169
15°	1690	1673	1618	1588	1571	476
25°	1534	1483	1377	1311	1287	706
35°	1322	1240	1099	997	962	827
45°	1081	973	804	690	651	835
55°	822	696	523	426	396	734
65°	555	425	280	225	220	550
75°	296	183	129	117	116	313
85°	69	35	30	30	30	83
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1777.2	1777.2	1777.2	1777.2	1777.2
2.5°	1785.2	1777.2	1759.5	1775.6	1772.4
5°	1777.2	1769.2	1748.2	1762.7	1757.9
7.5°	1762.7	1753.1	1730.6	1736.9	1728.9
10°	1743.4	1732.1	1700.0	1695.1	1685.5
12.5°	1719.3	1704.9	1661.3	1651.8	1634.0
15°	1690.3	1672.6	1618.0	1587.5	1571.4
17.5°	1656.5	1630.8	1563.2	1527.9	1502.1
20°	1618.0	1585.8	1505.3	1465.3	1429.8
22.5°	1576.2	1539.1	1445.8	1391.2	1367.1
25°	1534.3	1482.8	1376.7	1310.8	1286.6
27.5°	1484.5	1429.8	1312.4	1236.8	1199.8
30°	1431.5	1370.2	1241.6	1159.6	1116.1
32.5°	1380.0	1305.9	1174.2	1077.6	1037.3
35°	1322.1	1240.0	1098.6	997.2	961.7
37.5°	1265.7	1177.3	1027.8	916.7	876.6
40°	1206.2	1109.8	953.7	839.5	797.7
42.5°	1145.2	1042.2	879.8	760.7	720.6
45°	1080.8	973.0	804.2	689.9	651.3
47.5°	1019.7	905.6	731.9	617.6	582.2
50°	952.2	838.0	661.1	550.0	516.3
52.5°	886.1	765.5	593.5	487.4	456.8
55°	821.8	696.3	522.6	426.2	395.7
57.5°	755.9	627.3	460.0	370.0	344.2
60°	688.3	559.7	394.0	312.1	286.3
62.5°	622.5	493.8	337.7	260.6	247.8
65°	554.9	424.6	279.8	225.2	220.3
67.5°	490.5	360.3	225.2	197.8	193.0
70°	423.0	297.6	186.5	170.5	164.0
72.5°	358.7	239.6	156.0	143.2	139.9
75°	295.9	183.3	128.7	117.4	115.8
77.5°	233.2	130.2	101.4	94.9	91.6
80°	175.3	93.3	77.1	70.8	70.8
82.5°	122.2	62.8	53.1	49.8	49.8
85°	69.1	35.3	30.5	30.5	30.5
87.5°	25.8	12.8	12.8	11.3	11.3
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	11.73	13.25	12.09	13.56	13.88	7.69	9.21	8.06	9.53	9.84
	3H	13.49	14.86	13.87	15.19	15.55	8.96	10.32	9.33	10.65	11.01
	4H	14.16	15.44	14.56	15.79	16.17	9.46	10.74	9.86	11.09	11.46
	6H	14.65	15.83	15.06	16.20	16.59	9.84	11.02	10.25	11.39	11.78
	8H	14.82	15.94	15.24	16.33	16.73	9.96	11.09	10.39	11.48	11.88
	12H	14.92	16.00	15.35	16.38	16.81	10.04	11.12	10.47	11.50	11.93
4H	2H	11.83	13.11	12.23	13.46	13.84	8.39	9.67	8.79	10.02	10.39
	3H	13.77	14.83	14.18	15.23	15.63	9.83	10.89	10.24	11.29	11.69
	4H	14.52	15.47	14.95	15.89	16.33	10.43	11.38	10.86	11.80	12.24
	6H	15.11	15.94	15.56	16.38	16.84	10.92	11.75	11.37	12.19	12.65
	8H	15.32	16.10	15.79	16.54	17.01	11.08	11.86	11.54	12.30	12.77
	12H	15.48	16.17	15.96	16.65	17.12	11.19	11.89	11.68	12.37	12.84
8H	4H	14.54	15.32	15.00	15.76	16.23	10.78	11.56	11.25	12.00	12.47
	6H	15.18	15.82	15.67	16.31	16.79	11.37	12.01	11.87	12.50	12.98
	8H	15.43	16.00	15.94	16.51	17.00	11.59	12.17	12.10	12.68	13.16
	12H	15.63	16.14	16.14	16.63	17.20	11.77	12.28	12.28	12.77	13.33
12H	4H	14.52	15.22	15.01	15.70	16.17	10.83	11.52	11.31	12.00	12.47
	6H	15.16	15.74	15.67	16.25	16.73	11.43	12.01	11.95	12.52	13.01
	8H	15.44	15.95	15.95	16.44	17.01	11.70	12.21	12.21	12.71	13.27