

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: P930758

Luminaire Tested: DFN2DS-PN4F0-100DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930758
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-PN4F0-100DS950-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

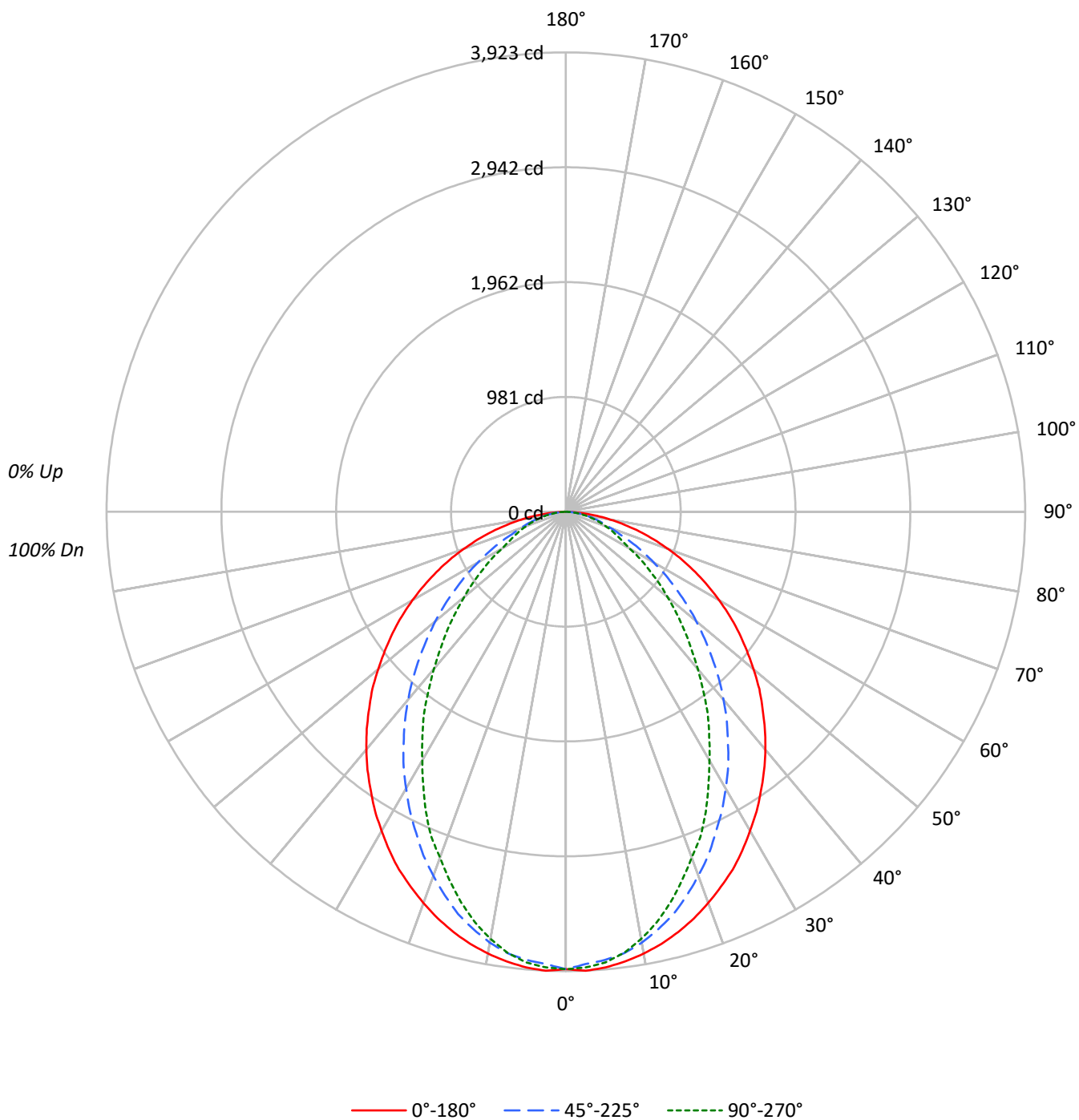
Lumens per Lamp: N/A
Luminaire Lumens: 8032.5 lumens
Efficiency: N/A
Efficacy: 76.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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°	2851	2851	2851
5°	2862	2815	2831
10°	2840	2769	2746
15°	2807	2687	2610
20°	2762	2570	2441
25°	2716	2437	2277
30°	2652	2300	2068
35°	2589	2151	1883
40°	2526	1997	1671
45°	2452	1825	1478
50°	2376	1650	1289
55°	2298	1462	1107
60°	2209	1264	919
65°	2106	1062	836
70°	1984	875	769
75°	1834	797	718
80°	1619	713	654
85°	1272	562	562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2452 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.0	4.6
10°-20°	1004.9	12.5
20°-30°	1410.8	17.6
30°-40°	1537.9	19.1
40°-50°	1413.5	17.6
50°-60°	1110.1	13.8
60°-70°	722.5	9.0
70°-80°	371.9	4.6
80°-90°	95.0	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°	2781.7	34.6
0°-40°	4319.6	53.8
0°-60°	6843.1	85.2
0°-90°	8032.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8032.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3906	3906	3906	3906	3906	
5°	3906	3888	3842	3874	3863	370
15°	3715	3676	3556	3489	3453	1047
25°	3372	3259	3026	2881	2828	1551
35°	2906	2725	2414	2192	2114	1819
45°	2375	2138	1767	1516	1431	1834
55°	1806	1530	1149	937	870	1614
65°	1220	933	615	495	484	1209
75°	650	403	283	258	255	688
85°	152	78	67	67	67	182
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3905.7	3905.7	3905.7	3905.7	3905.7
2.5°	3923.3	3905.7	3866.7	3902.3	3895.2
5°	3905.7	3888.0	3841.9	3873.8	3863.3
7.5°	3873.8	3852.8	3803.2	3817.1	3799.6
10°	3831.4	3806.6	3736.2	3725.3	3704.3
12.5°	3778.6	3746.6	3651.0	3630.0	3591.0
15°	3714.8	3675.8	3555.8	3488.7	3453.4
17.5°	3640.5	3583.9	3435.5	3357.8	3301.2
20°	3555.8	3484.9	3308.3	3220.2	3142.1
22.5°	3463.9	3382.5	3177.4	3057.5	3004.5
25°	3372.0	3258.8	3025.5	2880.7	2827.5
27.5°	3262.5	3142.1	2884.1	2718.0	2636.6
30°	3145.9	3011.2	2728.5	2548.6	2452.9
32.5°	3032.7	2869.9	2580.4	2368.2	2279.6
35°	2905.5	2725.2	2414.3	2191.5	2113.5
37.5°	2781.8	2587.1	2258.6	2014.6	1926.4
40°	2650.9	2439.0	2095.9	1845.0	1753.2
42.5°	2516.6	2290.5	1933.6	1671.8	1583.6
45°	2375.3	2138.3	1767.4	1516.2	1431.4
47.5°	2241.1	1990.2	1608.4	1357.1	1279.5
50°	2092.5	1841.6	1452.7	1208.7	1134.8
52.5°	1947.4	1682.3	1304.3	1071.0	1003.9
55°	1806.0	1530.4	1148.6	936.8	869.6
57.5°	1661.3	1378.5	1011.1	813.0	756.4
60°	1512.8	1230.0	865.9	685.9	629.3
62.5°	1368.0	1085.2	742.1	572.7	544.5
65°	1219.5	933.0	615.0	495.0	484.1
67.5°	1078.2	791.6	495.0	434.6	424.1
70°	929.6	654.0	409.8	374.6	360.4
72.5°	788.2	526.5	342.8	314.6	307.5
75°	650.3	402.8	282.7	258.0	254.6
77.5°	512.7	286.1	222.7	208.5	201.4
80°	385.1	205.2	169.5	155.6	155.6
82.5°	268.5	138.0	116.6	109.5	109.5
85°	151.9	77.6	67.1	67.1	67.1
87.5°	56.6	28.2	28.2	24.8	24.8
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	14.87	16.40	15.24	16.71	17.02	10.84	12.36	11.20	12.67	12.99
	3H	16.64	18.01	17.02	18.33	18.69	12.10	13.47	12.48	13.79	14.16
	4H	17.31	18.59	17.71	18.94	19.31	12.60	13.88	13.00	14.23	14.61
	6H	17.80	18.98	18.21	19.34	19.74	12.98	14.17	13.40	14.53	14.92
	8H	17.96	19.09	18.39	19.48	19.88	13.11	14.23	13.53	14.62	15.02
	12H	18.06	19.14	18.49	19.52	19.95	13.19	14.27	13.62	14.65	15.08
4H	2H	14.98	16.26	15.38	16.61	16.99	11.53	12.81	11.93	13.16	13.54
	3H	16.91	17.97	17.32	18.37	18.78	12.97	14.04	13.38	14.44	14.84
	4H	17.66	18.62	18.09	19.03	19.47	13.57	14.53	14.01	14.95	15.38
	6H	18.25	19.09	18.71	19.53	19.99	14.06	14.89	14.52	15.34	15.80
	8H	18.47	19.25	18.93	19.69	20.16	14.22	15.00	14.69	15.44	15.91
	12H	18.62	19.32	19.10	19.79	20.27	14.34	15.03	14.82	15.51	15.98
8H	4H	17.69	18.46	18.15	18.91	19.37	13.93	14.70	14.39	15.15	15.62
	6H	18.32	18.97	18.82	19.46	19.93	14.51	15.16	15.01	15.65	16.12
	8H	18.57	19.15	19.09	19.66	20.15	14.73	15.31	15.25	15.82	16.31
	12H	18.78	19.29	19.29	19.78	20.34	14.91	15.42	15.42	15.92	16.48
12H	4H	17.67	18.36	18.15	18.84	19.31	13.97	14.66	14.45	15.14	15.61
	6H	18.30	18.88	18.82	19.39	19.88	14.58	15.15	15.09	15.66	16.15
	8H	18.59	19.10	19.10	19.59	20.15	14.85	15.36	15.36	15.85	16.42