

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: P930730

Luminaire Tested: DFN2DS-PN4F0-090DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930730
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-PN4F0-090DS850-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

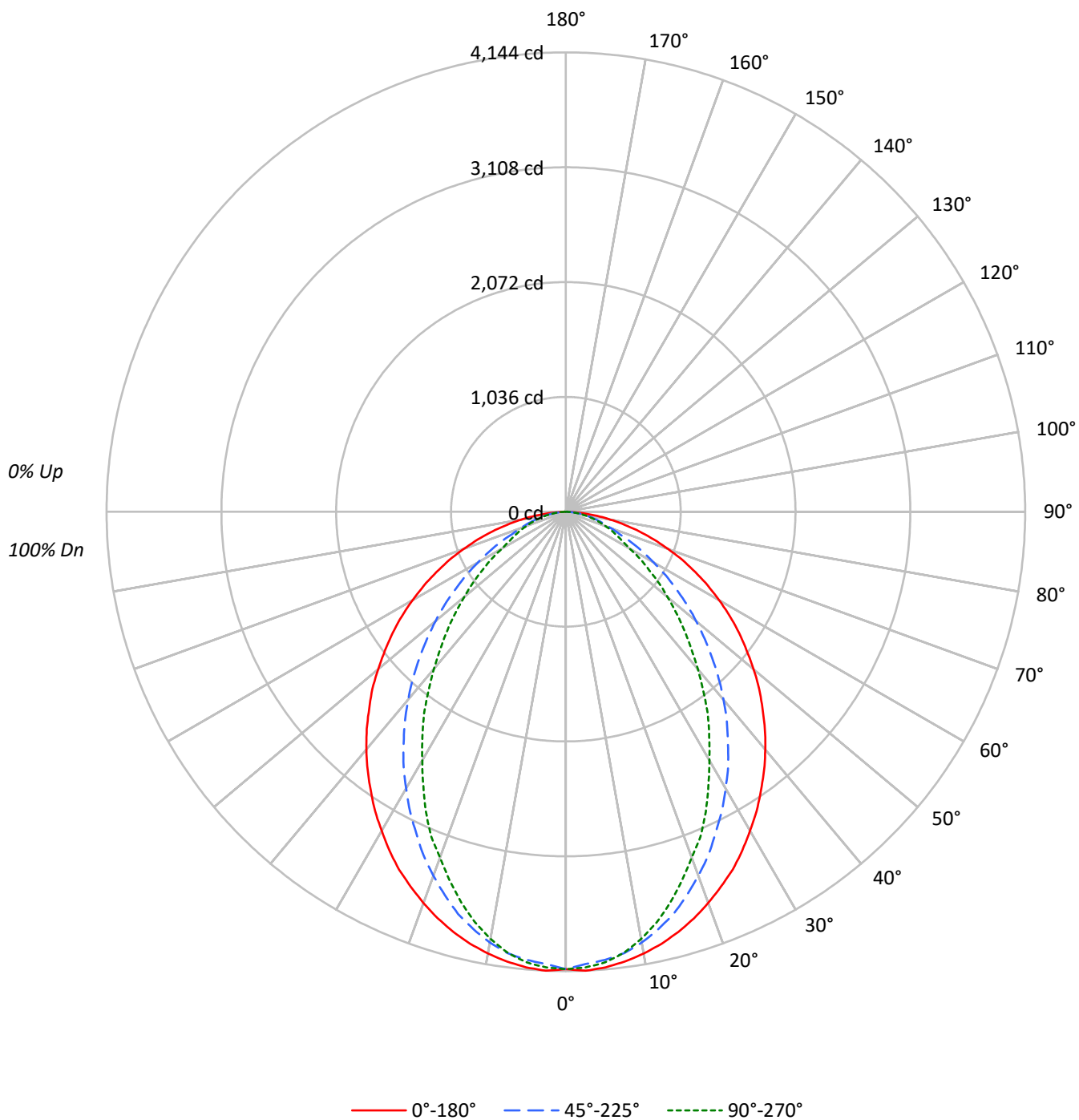
Lumens per Lamp: N/A
Luminaire Lumens: 8483.9 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 93.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
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°	3011	3011	3011
5°	3023	2973	2990
10°	2999	2925	2900
15°	2965	2838	2756
20°	2917	2714	2578
25°	2869	2574	2405
30°	2801	2429	2184
35°	2735	2272	1989
40°	2668	2109	1764
45°	2590	1927	1561
50°	2510	1742	1361
55°	2428	1544	1169
60°	2333	1335	970
65°	2225	1122	883
70°	2096	924	812
75°	1937	842	758
80°	1710	752	691
85°	1343	594	594

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2590 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.6	4.6
10°-20°	1061.3	12.5
20°-30°	1490.1	17.6
30°-40°	1624.3	19.1
40°-50°	1492.9	17.6
50°-60°	1172.4	13.8
60°-70°	763.1	9.0
70°-80°	392.8	4.6
80°-90°	100.3	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°	2938.0	34.6
0°-40°	4562.3	53.8
0°-60°	7227.6	85.2
0°-90°	8483.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8483.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4125	4125	4125	4125	4125	
5°	4125	4106	4058	4091	4080	391
15°	3924	3882	3756	3685	3648	1106
25°	3562	3442	3196	3043	2986	1638
35°	3069	2878	2550	2315	2232	1921
45°	2509	2258	1867	1601	1512	1937
55°	1908	1616	1213	989	918	1705
65°	1288	986	650	523	511	1277
75°	687	425	299	272	269	726
85°	160	82	71	71	71	192
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4125.1	4125.1	4125.1	4125.1	4125.1
2.5°	4143.8	4125.1	4083.9	4121.6	4114.1
5°	4125.1	4106.5	4057.8	4091.4	4080.3
7.5°	4091.4	4069.3	4017.0	4031.7	4013.0
10°	4046.7	4020.6	3946.2	3934.6	3912.4
12.5°	3990.8	3957.2	3856.2	3834.0	3792.8
15°	3923.5	3882.4	3755.6	3684.7	3647.5
17.5°	3845.1	3785.3	3628.4	3546.5	3486.7
20°	3755.6	3680.8	3494.1	3401.1	3318.7
22.5°	3658.6	3572.6	3355.9	3229.2	3173.4
25°	3561.6	3441.9	3195.6	3042.7	2986.4
27.5°	3445.9	3318.7	3046.2	2870.8	2784.8
30°	3322.7	3180.5	2881.8	2691.8	2590.7
32.5°	3203.0	3031.1	2725.4	2501.2	2407.7
35°	3068.8	2878.3	2549.9	2314.7	2232.3
37.5°	2938.1	2732.6	2385.6	2127.7	2034.7
40°	2799.9	2576.1	2213.7	1948.7	1851.7
42.5°	2658.1	2419.3	2042.1	1765.7	1672.6
45°	2508.8	2258.5	1866.7	1601.3	1511.8
47.5°	2366.9	2102.0	1698.8	1433.4	1351.4
50°	2210.1	1945.1	1534.4	1276.6	1198.5
52.5°	2056.9	1776.8	1377.6	1131.2	1060.3
55°	1907.5	1616.4	1213.1	989.4	918.5
57.5°	1754.7	1456.0	1067.9	858.7	798.9
60°	1597.7	1299.1	914.6	724.4	664.6
62.5°	1444.9	1146.3	783.8	604.8	575.1
65°	1288.0	985.5	649.5	522.8	511.4
67.5°	1138.7	836.1	522.8	459.0	447.9
70°	981.9	690.8	433.0	395.7	380.6
72.5°	832.5	556.1	362.0	332.3	324.8
75°	686.8	425.4	298.7	272.5	268.9
77.5°	541.4	302.2	235.2	220.2	212.7
80°	406.8	216.7	179.0	164.4	164.4
82.5°	283.6	145.7	123.2	115.7	115.7
85°	160.4	82.0	70.9	70.9	70.9
87.5°	59.8	29.7	29.7	26.2	26.2
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	15.06	16.59	15.43	16.90	17.21	11.03	12.55	11.39	12.86	13.18
	3H	16.83	18.20	17.21	18.52	18.88	12.29	13.66	12.67	13.98	14.35
	4H	17.50	18.78	17.90	19.13	19.50	12.79	14.07	13.19	14.42	14.80
	6H	17.99	19.17	18.40	19.53	19.93	13.17	14.36	13.58	14.72	15.11
	8H	18.15	19.28	18.58	19.67	20.07	13.30	14.42	13.72	14.81	15.21
	12H	18.25	19.33	18.68	19.71	20.14	13.38	14.46	13.81	14.84	15.27
4H	2H	15.17	16.45	15.57	16.80	17.18	11.72	13.00	12.12	13.35	13.73
	3H	17.10	18.16	17.51	18.56	18.97	13.16	14.23	13.57	14.63	15.03
	4H	17.85	18.81	18.28	19.22	19.66	13.76	14.72	14.20	15.14	15.57
	6H	18.44	19.28	18.90	19.72	20.18	14.25	15.08	14.71	15.53	15.99
	8H	18.66	19.43	19.12	19.88	20.35	14.41	15.19	14.88	15.63	16.10
	12H	18.81	19.51	19.29	19.98	20.45	14.53	15.23	15.01	15.70	16.17
8H	4H	17.88	18.65	18.34	19.10	19.56	14.12	14.89	14.58	15.34	15.81
	6H	18.51	19.16	19.01	19.65	20.12	14.70	15.35	15.20	15.84	16.31
	8H	18.76	19.34	19.28	19.85	20.34	14.92	15.50	15.44	16.01	16.50
	12H	18.97	19.48	19.48	19.97	20.53	15.10	15.61	15.61	16.11	16.67
12H	4H	17.86	18.55	18.34	19.03	19.50	14.16	14.85	14.64	15.33	15.80
	6H	18.49	19.07	19.01	19.58	20.07	14.77	15.34	15.28	15.85	16.34
	8H	18.78	19.29	19.29	19.78	20.34	15.04	15.55	15.55	16.04	16.61

END OF REPORT