

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: P930732

Luminaire Tested: DFN2DS-PN4F0-090DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930732
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-PN4F0-090DS927-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

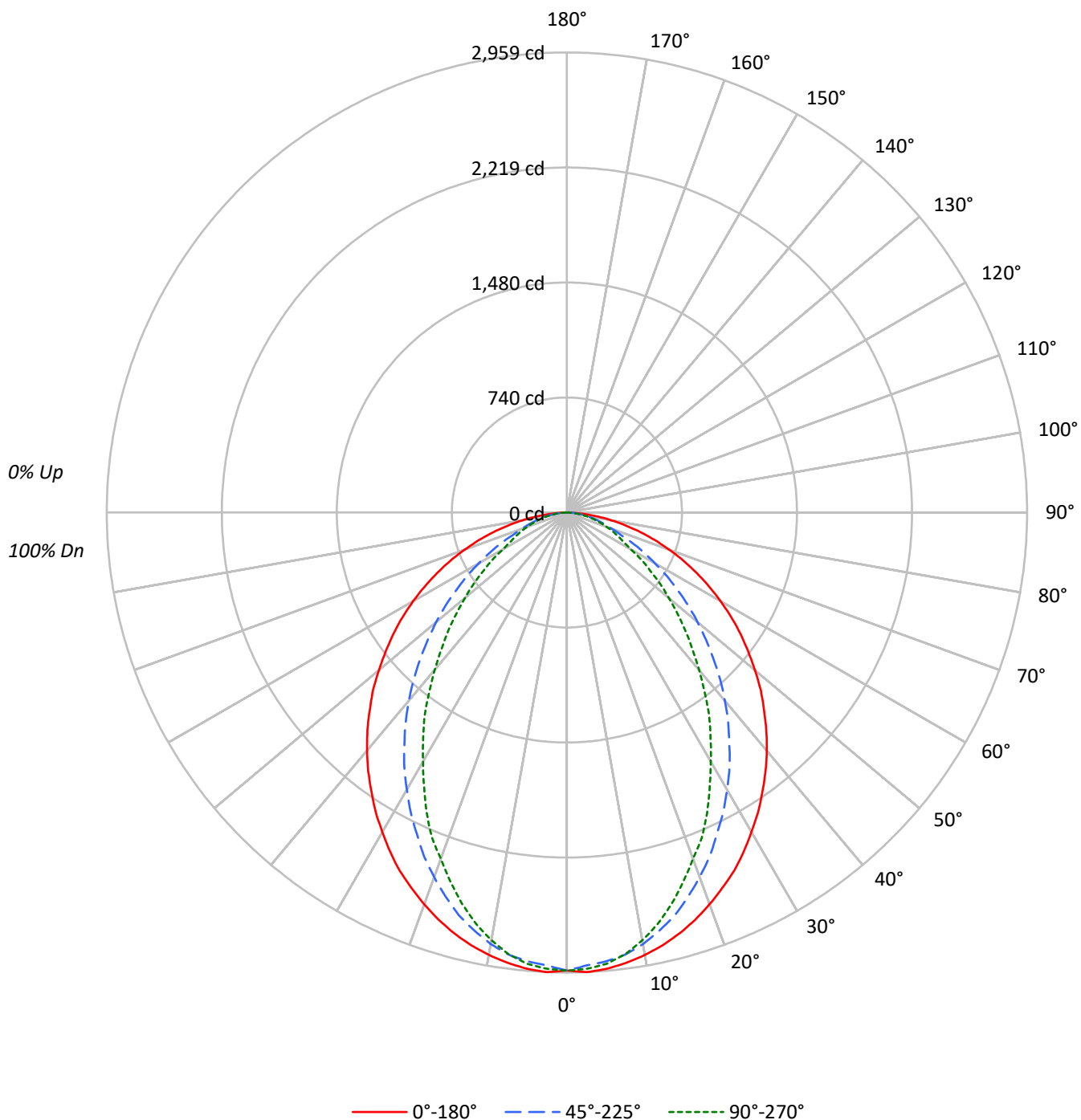
Lumens per Lamp: N/A
Luminaire Lumens: 6058.8 lumens
Efficiency: N/A
Efficacy: 65.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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°	2150	2150	2150
5°	2159	2123	2135
10°	2142	2089	2071
15°	2117	2027	1969
20°	2083	1938	1841
25°	2049	1838	1718
30°	2000	1735	1560
35°	1953	1623	1421
40°	1905	1506	1260
45°	1850	1376	1115
50°	1792	1244	972
55°	1734	1103	835
60°	1666	954	693
65°	1589	801	631
70°	1497	660	580
75°	1383	602	542
80°	1221	537	494
85°	959	424	424

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1850 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.1	4.6
10°-20°	758.0	12.5
20°-30°	1064.1	17.6
30°-40°	1160.0	19.1
40°-50°	1066.2	17.6
50°-60°	837.3	13.8
60°-70°	545.0	9.0
70°-80°	280.5	4.6
80°-90°	71.6	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°	2098.2	34.6
0°-40°	3258.2	53.8
0°-60°	5161.6	85.2
0°-90°	6058.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6058.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2946	2946	2946	2946	2946	
5°	2946	2933	2898	2922	2914	279
15°	2802	2773	2682	2631	2605	790
25°	2544	2458	2282	2173	2133	1170
35°	2192	2056	1821	1653	1594	1372
45°	1792	1613	1333	1144	1080	1384
55°	1362	1154	866	707	656	1217
65°	920	704	464	373	365	912
75°	490	304	213	195	192	519
85°	114	58	51	51	51	137
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2946.0	2946.0	2946.0	2946.0	2946.0
2.5°	2959.3	2946.0	2916.5	2943.5	2938.1
5°	2946.0	2932.7	2897.9	2921.9	2914.0
7.5°	2921.9	2906.1	2868.8	2879.2	2865.9
10°	2890.0	2871.3	2818.2	2809.9	2794.1
12.5°	2850.1	2826.1	2753.9	2738.1	2708.6
15°	2802.0	2772.6	2682.1	2631.4	2604.9
17.5°	2746.0	2703.3	2591.3	2532.7	2490.0
20°	2682.1	2628.6	2495.4	2428.9	2370.1
22.5°	2612.8	2551.4	2396.7	2306.1	2266.3
25°	2543.5	2458.1	2282.1	2172.9	2132.8
27.5°	2460.9	2370.1	2175.5	2050.2	1988.8
30°	2372.9	2271.4	2058.1	1922.3	1850.2
32.5°	2287.5	2164.7	1946.3	1786.3	1719.5
35°	2191.6	2055.6	1821.0	1653.1	1594.2
37.5°	2098.2	1951.5	1703.7	1519.5	1453.1
40°	1999.6	1839.7	1580.9	1391.7	1322.4
42.5°	1898.3	1727.7	1458.4	1261.0	1194.5
45°	1791.7	1612.9	1333.1	1143.6	1079.7
47.5°	1690.4	1501.2	1213.2	1023.7	965.1
50°	1578.4	1389.1	1095.8	911.7	855.9
52.5°	1468.9	1268.9	983.8	807.8	757.2
55°	1362.2	1154.3	866.4	706.6	655.9
57.5°	1253.1	1039.8	762.6	613.2	570.6
60°	1141.0	927.7	653.2	517.3	474.6
62.5°	1031.9	818.6	559.8	432.0	410.7
65°	919.8	703.8	463.9	373.3	365.2
67.5°	813.2	597.1	373.3	327.8	319.9
70°	701.2	493.3	309.2	282.6	271.8
72.5°	594.6	397.1	258.5	237.3	232.0
75°	490.5	303.8	213.3	194.6	192.1
77.5°	386.7	215.8	168.0	157.3	151.9
80°	290.5	154.8	127.8	117.4	117.4
82.5°	202.5	104.1	88.0	82.6	82.6
85°	114.5	58.5	50.6	50.6	50.6
87.5°	42.7	21.2	21.2	18.7	18.7
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	13.89	15.42	14.26	15.73	16.04	9.86	11.38	10.22	11.69	12.01
	3H	15.66	17.03	16.04	17.35	17.72	11.12	12.49	11.50	12.81	13.18
	4H	16.33	17.61	16.73	17.96	18.33	11.62	12.90	12.02	13.25	13.63
	6H	16.82	18.00	17.23	18.37	18.76	12.00	13.19	12.42	13.55	13.94
	8H	16.98	18.11	17.41	18.50	18.90	12.13	13.25	12.55	13.64	14.05
	12H	17.08	18.16	17.51	18.54	18.97	12.21	13.29	12.64	13.67	14.10
4H	2H	14.00	15.28	14.40	15.63	16.01	10.55	11.83	10.95	12.18	12.56
	3H	15.93	17.00	16.34	17.39	17.80	11.99	13.06	12.40	13.46	13.86
	4H	16.68	17.64	17.11	18.05	18.49	12.59	13.55	13.03	13.97	14.40
	6H	17.27	18.11	17.73	18.55	19.01	13.08	13.91	13.54	14.36	14.82
	8H	17.49	18.27	17.95	18.71	19.18	13.24	14.02	13.71	14.47	14.93
	12H	17.64	18.34	18.12	18.81	19.29	13.36	14.06	13.84	14.53	15.00
8H	4H	16.71	17.48	17.17	17.93	18.39	12.95	13.72	13.41	14.17	14.64
	6H	17.34	17.99	17.84	18.48	18.95	13.53	14.18	14.03	14.67	15.15
	8H	17.59	18.17	18.11	18.68	19.17	13.76	14.33	14.27	14.84	15.33
	12H	17.80	18.31	18.31	18.80	19.36	13.93	14.44	14.44	14.94	15.50
12H	4H	16.69	17.38	17.17	17.86	18.33	12.99	13.69	13.47	14.16	14.63
	6H	17.32	17.90	17.84	18.41	18.90	13.60	14.17	14.11	14.68	15.17
	8H	17.61	18.12	18.12	18.61	19.18	13.87	14.38	14.38	14.87	15.44