

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: P929796

Luminaire Tested: DFN2DS-4P2F0-020DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929796
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-4P2F0-020DS927-RLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

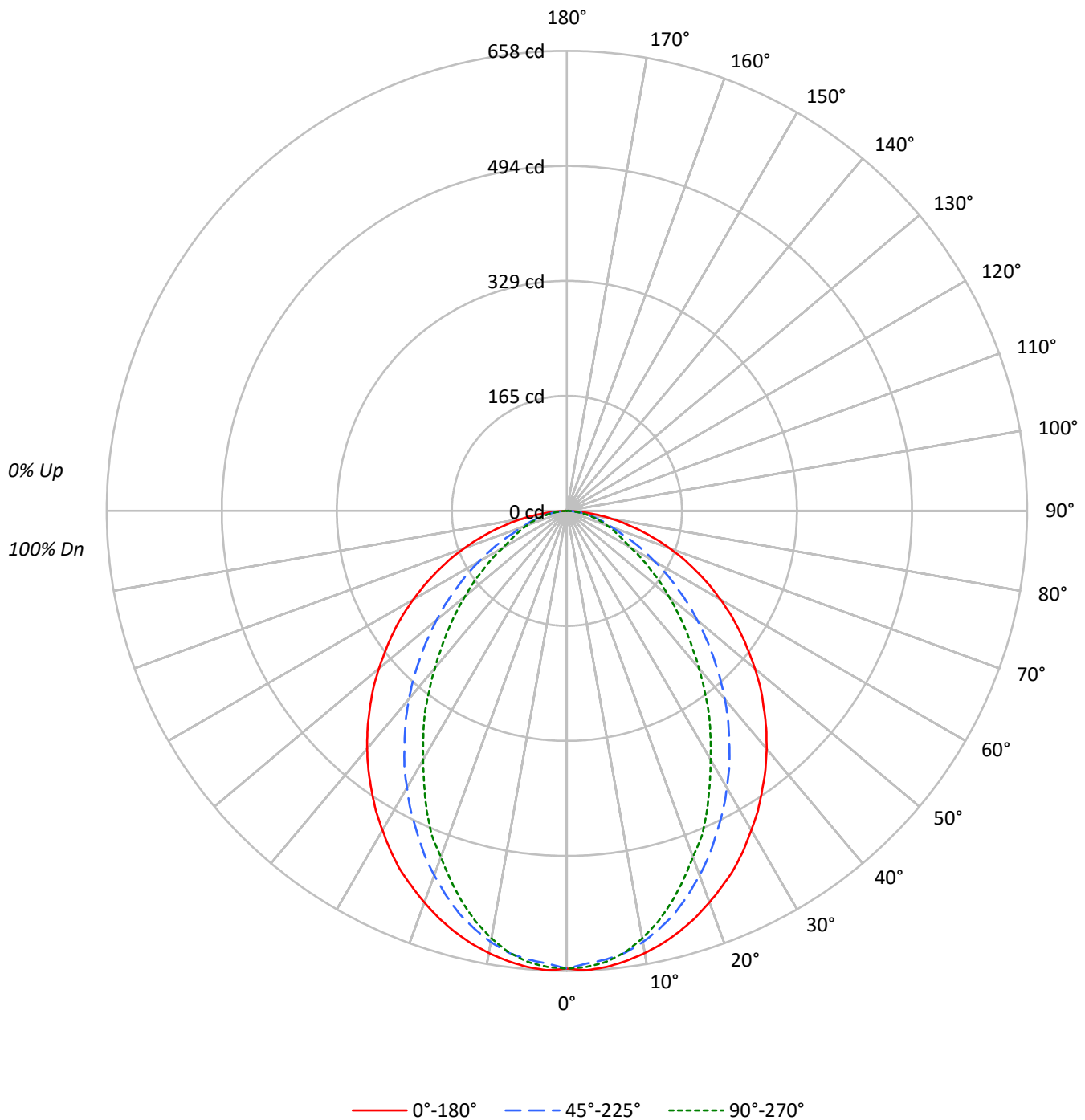
Lumens per Lamp: N/A
Luminaire Lumens: 1346.4 lumens
Efficiency: N/A
Efficacy: 69.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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°	1639	1639	1639
5°	1646	1619	1628
10°	1633	1592	1579
15°	1614	1545	1501
20°	1588	1478	1403
25°	1562	1401	1309
30°	1525	1323	1189
35°	1489	1237	1083
40°	1452	1148	960
45°	1410	1049	850
50°	1367	949	741
55°	1321	840	636
60°	1270	727	528
65°	1211	611	481
70°	1141	503	442
75°	1055	459	413
80°	930	410	376
85°	730	322	322

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1410 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	4.6
10°-20°	168.4	12.5
20°-30°	236.5	17.6
30°-40°	257.8	19.1
40°-50°	236.9	17.6
50°-60°	186.1	13.8
60°-70°	121.1	9.0
70°-80°	62.3	4.6
80°-90°	15.9	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°	466.3	34.6
0°-40°	724.0	53.8
0°-60°	1147.0	85.2
0°-90°	1346.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1346.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	655	652	644	649	648	62
15°	623	616	596	585	579	175
25°	565	546	507	483	474	260
35°	487	457	405	367	354	305
45°	398	358	296	254	240	307
55°	303	256	192	157	146	271
65°	204	156	103	83	81	203
75°	109	68	47	43	43	115
85°	25	13	11	11	11	31
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	654.7	654.7	654.7	654.7	654.7
2.5°	657.6	654.7	648.1	654.1	652.9
5°	654.7	651.7	644.0	649.4	647.5
7.5°	649.4	645.8	637.5	639.9	636.8
10°	642.2	638.0	626.2	624.4	620.9
12.5°	633.4	628.0	612.0	608.5	601.9
15°	622.7	616.1	596.0	584.7	578.9
17.5°	610.2	600.7	575.9	562.8	553.4
20°	596.0	584.1	554.6	539.7	526.7
22.5°	580.6	567.0	532.6	512.5	503.6
25°	565.3	546.2	507.1	482.9	473.9
27.5°	546.9	526.7	483.4	455.6	441.9
30°	527.3	504.7	457.4	427.2	411.1
32.5°	508.3	481.1	432.5	397.0	382.1
35°	487.0	456.8	404.7	367.3	354.3
37.5°	466.3	433.6	378.6	337.7	322.9
40°	444.3	408.8	351.3	309.3	293.8
42.5°	421.8	384.0	324.1	280.2	265.5
45°	398.1	358.4	296.3	254.2	239.9
47.5°	375.6	333.6	269.6	227.5	214.5
50°	350.8	308.7	243.5	202.6	190.2
52.5°	326.4	282.0	218.6	179.5	168.3
55°	302.7	256.5	192.5	157.1	145.7
57.5°	278.5	231.0	169.5	136.3	126.8
60°	253.6	206.2	145.2	115.0	105.5
62.5°	229.3	181.9	124.4	96.0	91.2
65°	204.4	156.4	103.1	83.0	81.2
67.5°	180.7	132.7	83.0	72.9	71.1
70°	155.8	109.6	68.7	62.8	60.4
72.5°	132.1	88.2	57.4	52.7	51.6
75°	109.0	67.5	47.4	43.2	42.7
77.5°	85.9	48.0	37.3	34.9	33.7
80°	64.5	34.4	28.4	26.1	26.1
82.5°	45.0	23.1	19.6	18.4	18.4
85°	25.4	13.0	11.2	11.2	11.2
87.5°	9.5	4.8	4.8	4.1	4.1
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	12.95	14.47	13.32	14.79	15.10	8.91	10.44	9.28	10.75	11.06
	3H	14.72	16.08	15.09	16.41	16.77	10.18	11.54	10.56	11.87	12.23
	4H	15.38	16.66	15.78	17.01	17.39	10.68	11.96	11.08	12.31	12.69
	6H	15.87	17.05	16.28	17.42	17.81	11.06	12.24	11.47	12.61	13.00
	8H	16.04	17.16	16.46	17.55	17.95	11.19	12.31	11.61	12.70	13.10
	12H	16.14	17.22	16.57	17.60	18.03	11.27	12.34	11.70	12.73	13.16
4H	2H	13.05	14.34	13.45	14.68	15.06	9.61	10.89	10.01	11.24	11.62
	3H	14.99	16.05	15.40	16.45	16.85	11.05	12.11	11.46	12.51	12.92
	4H	15.74	16.69	16.17	17.11	17.55	11.65	12.61	12.08	13.02	13.46
	6H	16.33	17.16	16.79	17.60	18.06	12.14	12.97	12.60	13.41	13.87
	8H	16.54	17.32	17.01	17.77	18.23	12.30	13.08	12.76	13.52	13.99
	12H	16.70	17.39	17.18	17.87	18.34	12.42	13.11	12.90	13.59	14.06
8H	4H	15.76	16.54	16.23	16.98	17.45	12.00	12.78	12.47	13.23	13.69
	6H	16.40	17.04	16.90	17.53	18.01	12.59	13.23	13.09	13.72	14.20
	8H	16.65	17.23	17.16	17.74	18.22	12.81	13.39	13.33	13.90	14.39
	12H	16.85	17.36	17.36	17.86	18.42	12.99	13.50	13.50	13.99	14.56
12H	4H	15.75	16.44	16.23	16.92	17.39	12.05	12.74	12.53	13.22	13.69
	6H	16.38	16.96	16.89	17.47	17.96	12.65	13.23	13.17	13.74	14.23
	8H	16.66	17.17	17.17	17.67	18.23	12.93	13.44	13.44	13.93	14.49