

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: P929942

Luminaire Tested: DFN2DS-4P4F0-030DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929942
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-4P4F0-030DS930-RLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

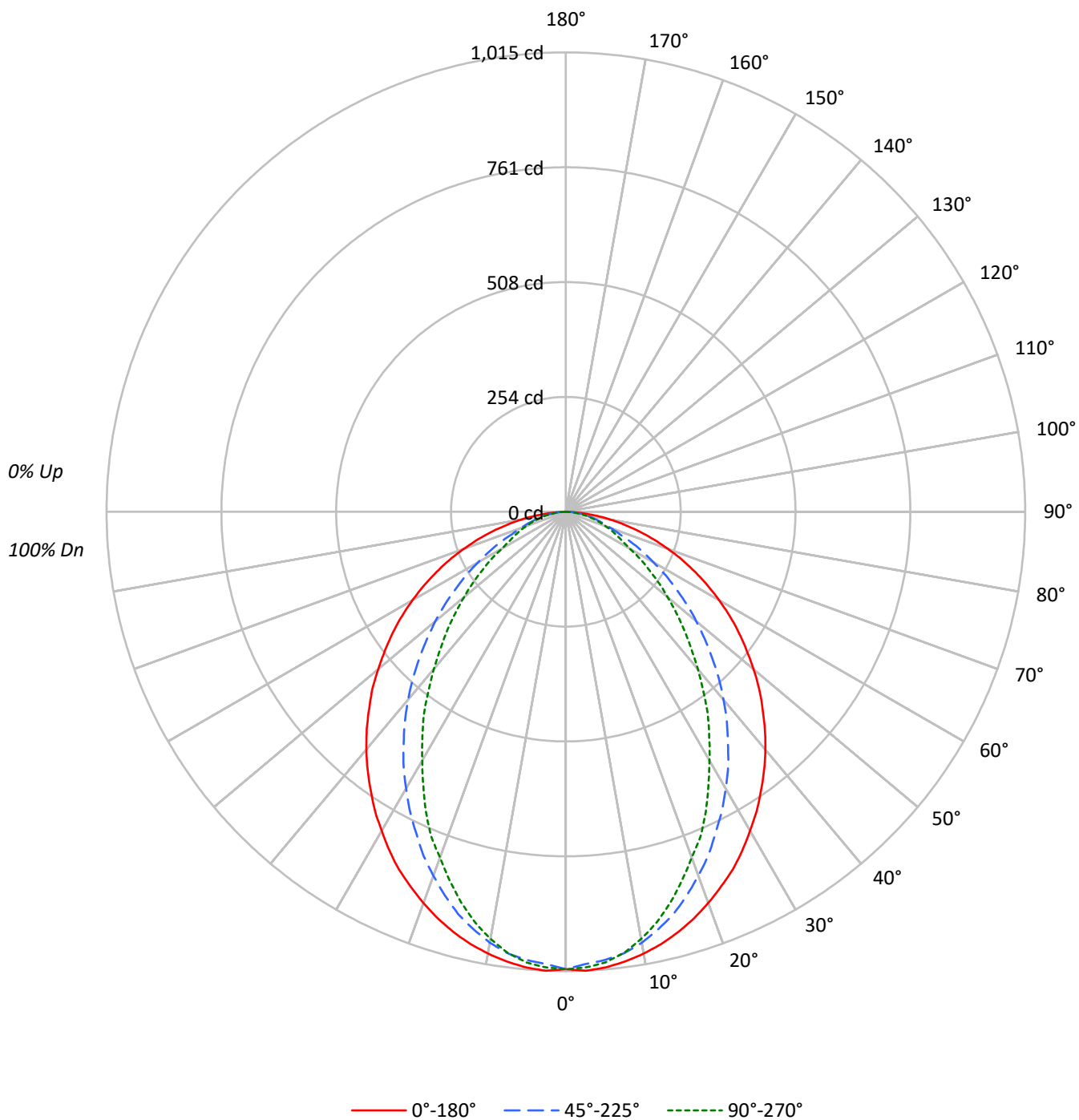
Lumens per Lamp: N/A
Luminaire Lumens: 2078.2 lumens
Efficiency: N/A
Efficacy: 73.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 28.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
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°	656	656	656
5°	658	647	651
10°	653	637	631
15°	645	618	600
20°	635	591	561
25°	625	560	524
30°	610	529	475
35°	595	495	433
40°	581	459	384
45°	564	420	340
50°	546	379	296
55°	528	336	254
60°	508	291	211
65°	484	244	192
70°	456	201	177
75°	422	183	165
80°	372	164	151
85°	293	130	130

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 564 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	4.6
10°-20°	260.0	12.5
20°-30°	365.0	17.6
30°-40°	397.9	19.1
40°-50°	365.7	17.6
50°-60°	287.2	13.8
60°-70°	186.9	9.0
70°-80°	96.2	4.6
80°-90°	24.6	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°	719.7	34.6
0°-40°	1117.6	53.8
0°-60°	1770.5	85.2
0°-90°	2078.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2078.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	1010	1006	994	1002	1000	96
15°	961	951	920	903	894	271
25°	872	843	783	745	732	401
35°	752	705	625	567	547	471
45°	615	553	457	392	370	475
55°	467	396	297	242	225	418
65°	316	241	159	128	125	313
75°	168	104	73	67	66	178
85°	39	20	17	17	17	47
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1010.5	1010.5	1010.5	1010.5	1010.5
2.5°	1015.1	1010.5	1000.4	1009.6	1007.8
5°	1010.5	1006.0	994.1	1002.3	999.5
7.5°	1002.3	996.8	984.0	987.6	983.1
10°	991.3	984.9	966.7	963.8	958.4
12.5°	977.6	969.4	944.7	939.2	929.1
15°	961.1	951.0	920.0	902.6	893.5
17.5°	941.9	927.3	888.8	868.8	854.1
20°	920.0	901.6	855.9	833.2	813.0
22.5°	896.3	875.1	822.1	791.0	777.3
25°	872.5	843.1	782.8	745.3	731.5
27.5°	844.1	813.0	746.2	703.3	682.2
30°	813.9	779.1	706.0	659.4	634.6
32.5°	784.6	742.5	667.6	612.7	589.8
35°	751.8	705.1	624.6	567.0	546.9
37.5°	719.7	669.4	584.4	521.2	498.5
40°	685.9	631.1	542.3	477.3	453.6
42.5°	651.1	592.7	500.2	432.5	409.7
45°	614.6	553.2	457.3	392.3	370.3
47.5°	579.8	514.9	416.1	351.1	331.1
50°	541.4	476.4	375.9	312.7	293.6
52.5°	503.8	435.3	337.5	277.1	259.7
55°	467.2	395.9	297.1	242.4	225.0
57.5°	429.8	356.6	261.6	210.4	195.7
60°	391.4	318.3	224.0	177.4	162.8
62.5°	354.0	280.8	192.0	148.2	140.9
65°	315.5	241.4	159.1	128.0	125.3
67.5°	279.0	204.8	128.0	112.5	109.7
70°	240.5	169.2	106.0	96.9	93.2
72.5°	203.9	136.2	88.7	81.4	79.5
75°	168.2	104.2	73.2	66.7	65.9
77.5°	132.6	74.0	57.6	54.0	52.1
80°	99.7	53.1	43.8	40.3	40.3
82.5°	69.4	35.7	30.2	28.4	28.4
85°	39.3	20.0	17.4	17.4	17.4
87.5°	14.7	7.3	7.3	6.4	6.4
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	9.77	11.29	10.13	11.60	11.92	5.73	7.25	6.09	7.56	7.88
	3H	11.53	12.90	11.91	13.23	13.59	6.99	8.36	7.37	8.69	9.05
	4H	12.20	13.48	12.60	13.83	14.21	7.50	8.78	7.90	9.12	9.50
	6H	12.69	13.87	13.10	14.24	14.63	7.88	9.06	8.29	9.43	9.82
	8H	12.85	13.98	13.28	14.37	14.77	8.00	9.13	8.43	9.52	9.92
	12H	12.96	14.03	13.39	14.42	14.85	8.08	9.16	8.51	9.54	9.97
4H	2H	9.87	11.15	10.27	11.50	11.88	6.42	7.71	6.82	8.05	8.43
	3H	11.80	12.87	12.22	13.27	13.67	7.87	8.93	8.28	9.33	9.73
	4H	12.55	13.51	12.99	13.93	14.36	8.47	9.42	8.90	9.84	10.28
	6H	13.15	13.98	13.60	14.42	14.88	8.95	9.79	9.41	10.23	10.69
	8H	13.36	14.14	13.82	14.58	15.05	9.12	9.89	9.58	10.34	10.81
	12H	13.51	14.21	14.00	14.69	15.16	9.24	9.93	9.72	10.41	10.88
8H	4H	12.58	13.36	13.04	13.80	14.27	8.82	9.60	9.28	10.04	10.51
	6H	13.22	13.86	13.71	14.35	14.83	9.41	10.05	9.90	10.54	11.02
	8H	13.47	14.04	13.98	14.55	15.04	9.63	10.21	10.14	10.72	11.20
	12H	13.67	14.18	14.18	14.67	15.24	9.81	10.32	10.32	10.81	11.38
12H	4H	12.56	13.26	13.04	13.74	14.21	8.86	9.56	9.35	10.04	10.51
	6H	13.20	13.77	13.71	14.28	14.77	9.47	10.05	9.98	10.56	11.05
	8H	13.48	13.99	13.99	14.48	15.05	9.74	10.25	10.25	10.75	11.31

END OF REPORT