

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: P929797

Luminaire Tested: DFN2DS-4P2F0-020DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P929797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P2F0-020DS930-FLL
Description: 2 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

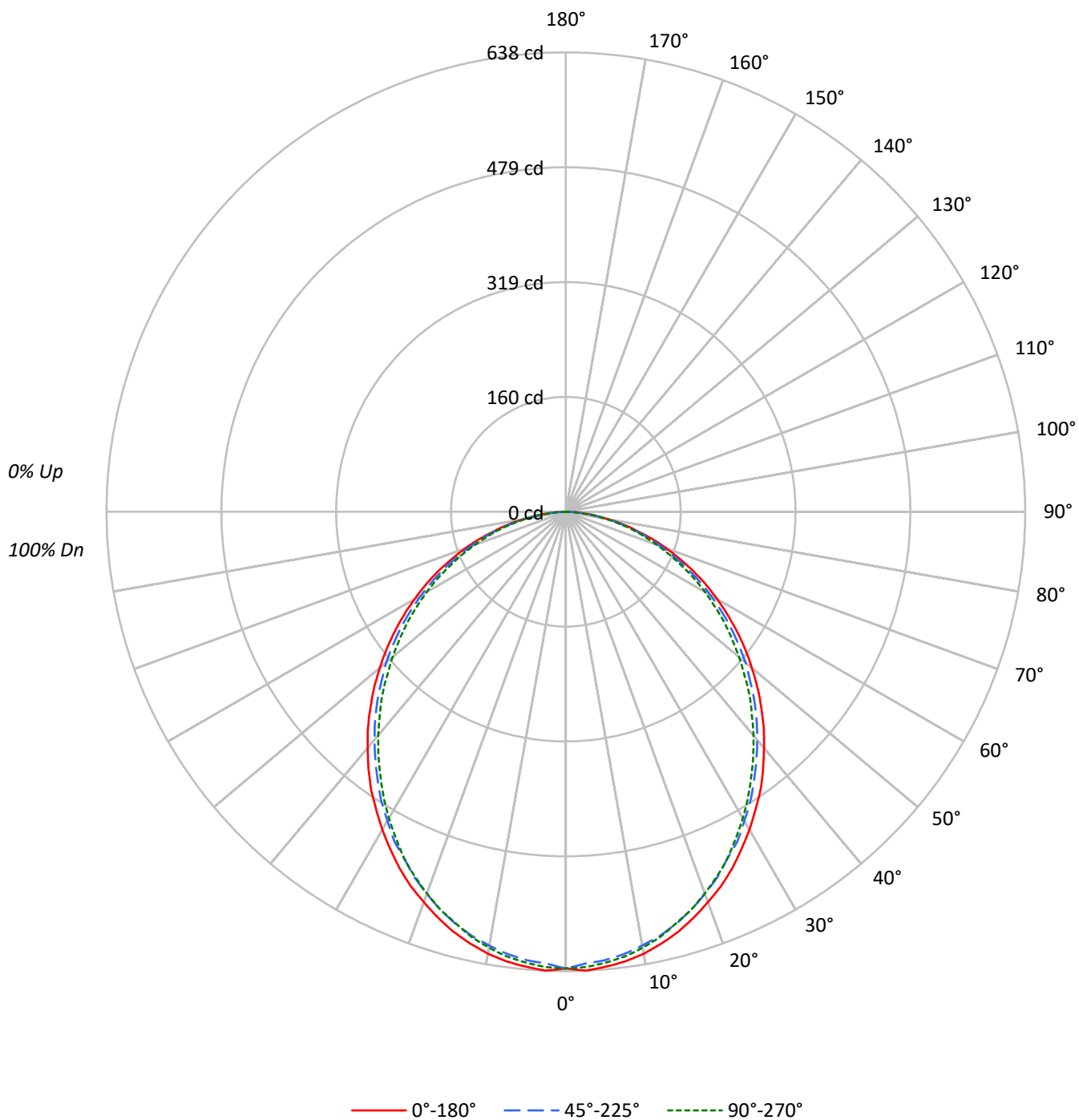
Lumens per Lamp: N/A
Luminaire Lumens: 1613.7 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 2.07' x L: 2.07' x H: 0')
CIE Type: Direct

Input Watts (W): 19.3
Input Voltage (V): 120
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1588	1588	1588
5°	1594	1571	1581
10°	1585	1555	1563
15°	1565	1535	1534
20°	1537	1505	1503
25°	1510	1468	1468
30°	1474	1434	1421
35°	1441	1393	1372
40°	1399	1351	1325
45°	1358	1311	1278
50°	1314	1269	1224
55°	1267	1219	1174
60°	1215	1161	1118
65°	1160	1103	1052
70°	1089	1031	983
75°	991	949	927
80°	880	854	809
85°	715	684	615

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1358 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.7	3.7
10°-20°	168.0	10.4
20°-30°	246.8	15.3
30°-40°	286.7	17.8
40°-50°	286.3	17.7
50°-60°	249.7	15.5
60°-70°	184.6	11.4
70°-80°	104.4	6.5
80°-90°	27.6	1.7
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°	474.5	29.4
0°-40°	761.2	47.2
0°-60°	1297.2	80.4
0°-90°	1613.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1613.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	634	634	634	634	634	
5°	634	632	625	630	629	60
15°	604	600	592	595	592	170
25°	546	542	531	532	531	251
35°	472	465	456	452	449	294
45°	384	379	370	364	361	296
55°	290	287	279	272	269	260
65°	196	192	186	180	178	194
75°	102	101	98	94	96	109
85°	25	24	24	22	21	29
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	634.2	634.2	634.2	634.2	634.2
2.5°	637.9	634.9	628.1	634.2	633.1
5°	634.2	631.9	625.1	630.0	628.8
7.5°	630.0	626.3	619.6	624.5	623.3
10°	623.3	619.1	611.7	616.5	614.8
12.5°	614.1	610.5	603.2	606.2	605.0
15°	603.8	600.2	592.2	594.6	591.6
17.5°	591.0	587.4	579.4	582.4	579.4
20°	576.9	573.3	564.7	566.6	564.1
22.5°	562.9	557.5	549.5	549.5	548.3
25°	546.5	541.6	531.2	532.4	531.2
27.5°	528.1	523.9	516.0	514.2	511.1
30°	509.9	505.0	495.8	494.1	491.5
32.5°	490.3	486.7	476.9	473.3	470.8
35°	471.5	465.4	455.6	451.9	448.8
37.5°	450.1	444.6	434.8	430.6	427.5
40°	428.1	423.2	413.4	408.1	405.5
42.5°	406.8	401.9	392.2	386.1	382.4
45°	383.6	379.4	370.2	363.5	361.0
47.5°	361.0	356.8	347.0	340.3	336.7
50°	337.2	334.2	325.7	317.1	314.1
52.5°	314.1	309.8	301.9	295.2	291.0
55°	290.3	286.6	279.3	272.0	269.0
57.5°	266.5	263.5	255.5	248.2	245.7
60°	242.7	240.3	231.8	225.0	223.2
62.5°	219.6	215.2	209.2	203.1	200.7
65°	195.8	192.1	186.1	180.5	177.5
67.5°	171.4	168.3	162.8	158.6	156.2
70°	148.8	146.4	140.8	136.6	134.2
72.5°	125.7	123.2	120.1	115.9	114.1
75°	102.4	101.3	98.1	94.5	95.8
77.5°	81.7	79.3	78.0	76.2	74.4
80°	61.0	60.4	59.2	57.3	56.1
82.5°	41.5	41.5	40.9	38.5	38.5
85°	24.9	24.4	23.8	21.9	21.4
87.5°	11.0	9.8	8.6	6.8	6.1
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	12.89	14.50	13.25	14.81	15.13	12.44	14.06	12.81	14.37	14.68
	3H	14.64	16.09	15.02	16.42	16.78	14.15	15.60	14.53	15.93	16.29
	4H	15.29	16.66	15.68	17.00	17.38	14.79	16.16	15.19	16.51	16.88
	6H	15.76	17.02	16.17	17.39	17.78	15.25	16.52	15.66	16.89	17.28
	8H	15.90	17.11	16.32	17.50	17.90	15.40	16.61	15.82	17.00	17.39
	12H	15.99	17.15	16.42	17.53	17.96	15.48	16.64	15.91	17.02	17.45
4H	2H	13.45	14.82	13.85	15.17	15.54	13.10	14.47	13.50	14.81	15.19
	3H	15.43	16.57	15.84	16.97	17.37	15.02	16.16	15.43	16.56	16.96
	4H	16.20	17.24	16.63	17.65	18.09	15.78	16.81	16.21	17.23	17.66
	6H	16.80	17.70	17.25	18.14	18.60	16.37	17.27	16.82	17.71	18.17
	8H	16.99	17.83	17.45	18.28	18.74	16.55	17.40	17.01	17.84	18.30
	12H	17.12	17.88	17.60	18.36	18.83	16.67	17.43	17.15	17.90	18.37
8H	4H	16.48	17.32	16.94	17.76	18.23	16.10	16.95	16.56	17.39	17.86
	6H	17.19	17.89	17.68	18.38	18.86	16.81	17.51	17.30	18.00	18.47
	8H	17.45	18.08	17.96	18.59	19.07	17.06	17.69	17.57	18.19	18.68
	12H	17.65	18.21	18.16	18.70	19.26	17.24	17.79	17.74	18.28	18.85
12H	4H	16.50	17.26	16.98	17.74	18.21	16.14	16.90	16.62	17.37	17.84
	6H	17.24	17.87	17.74	18.37	18.86	16.87	17.50	17.38	18.00	18.49
	8H	17.55	18.11	18.06	18.60	19.16	17.17	17.73	17.68	18.22	18.78

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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