

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: P931310

Luminaire Tested: DFN2DS-TR2F0-060DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931310
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-TR2F0-060DS930-RLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

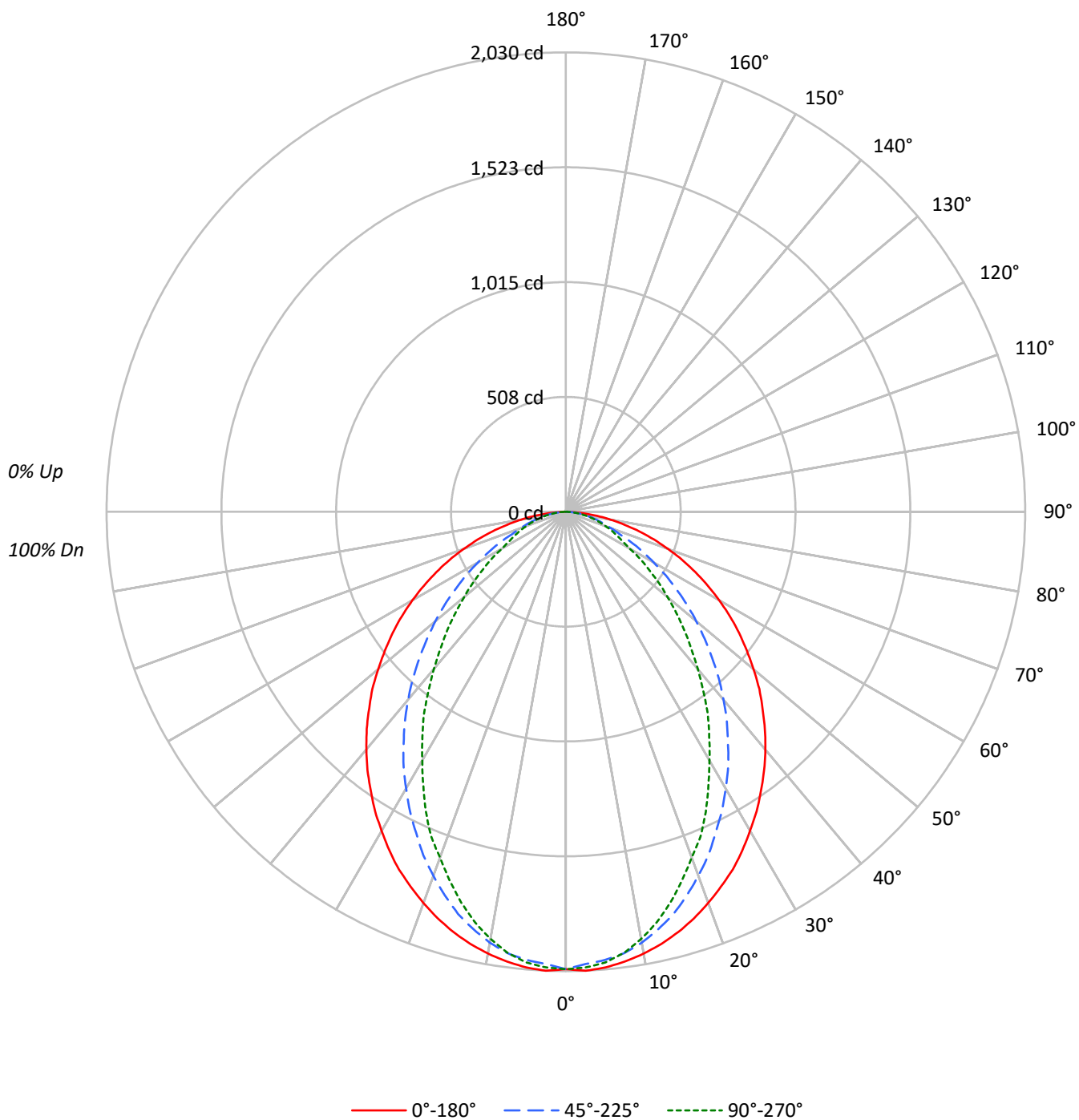
Lumens per Lamp: N/A
Luminaire Lumens: 4156.5 lumens
Efficiency: N/A
Efficacy: 67.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 2.36' x L: 2.04' x H: 0')
CIE Type: Direct

Input Watts (W): 61.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	84	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74	72	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64	62	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55	53	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49	47	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43	41	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39	37	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35	33	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32	30	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29	27	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4508	4508	4508
5°	4525	4451	4476
10°	4490	4379	4341
15°	4439	4249	4126
20°	4367	4063	3859
25°	4294	3853	3601
30°	4193	3636	3269
35°	4094	3402	2978
40°	3994	3158	2641
45°	3877	2885	2336
50°	3757	2609	2038
55°	3634	2311	1750
60°	3492	1999	1452
65°	3331	1680	1322
70°	3137	1383	1216
75°	2900	1261	1136
80°	2560	1126	1034
85°	2011	888	888

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3877 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.4	4.6
10°-20°	520.0	12.5
20°-30°	730.0	17.6
30°-40°	795.8	19.1
40°-50°	731.4	17.6
50°-60°	574.4	13.8
60°-70°	373.9	9.0
70°-80°	192.5	4.6
80°-90°	49.1	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°	1439.4	34.6
0°-40°	2235.2	53.8
0°-60°	3541.0	85.2
0°-90°	4156.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4156.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2021	2021	2021	2021	2021	
5°	2021	2012	1988	2005	1999	192
15°	1922	1902	1840	1805	1787	542
25°	1745	1686	1566	1491	1463	802
35°	1504	1410	1249	1134	1094	941
45°	1229	1106	915	784	741	949
55°	935	792	594	485	450	835
65°	631	483	318	256	250	626
75°	336	208	146	134	132	356
85°	79	40	35	35	35	94
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2021.0	2021.0	2021.0	2021.0	2021.0
2.5°	2030.2	2021.0	2000.8	2019.2	2015.6
5°	2021.0	2011.9	1988.0	2004.6	1999.1
7.5°	2004.6	1993.7	1968.1	1975.2	1966.1
10°	1982.6	1969.8	1933.3	1927.7	1916.8
12.5°	1955.3	1938.7	1889.3	1878.4	1858.2
15°	1922.3	1902.0	1839.9	1805.2	1787.0
17.5°	1883.9	1854.5	1777.7	1737.5	1708.2
20°	1839.9	1803.3	1711.9	1666.3	1625.9
22.5°	1792.4	1750.3	1644.2	1582.1	1554.7
25°	1744.9	1686.3	1565.6	1490.7	1463.2
27.5°	1688.3	1625.9	1492.4	1406.4	1364.4
30°	1627.9	1558.2	1411.9	1318.8	1269.3
32.5°	1569.3	1485.1	1335.3	1225.4	1179.6
35°	1503.5	1410.2	1249.3	1134.0	1093.6
37.5°	1439.5	1338.7	1168.8	1042.5	996.8
40°	1371.7	1262.1	1084.5	954.7	907.2
42.5°	1302.3	1185.3	1000.5	865.0	819.5
45°	1229.1	1106.4	914.6	784.5	740.7
47.5°	1159.7	1029.8	832.3	702.3	662.1
50°	1082.8	953.0	751.8	625.4	587.2
52.5°	1007.7	870.5	674.9	554.2	519.5
55°	934.6	791.9	594.4	484.8	450.0
57.5°	859.7	713.3	523.1	420.7	391.4
60°	782.8	636.5	448.1	354.9	325.6
62.5°	707.9	561.6	384.0	296.3	281.7
65°	631.1	482.8	318.3	256.2	250.5
67.5°	557.9	409.6	256.2	224.9	219.5
70°	481.0	338.4	212.1	193.9	186.5
72.5°	407.9	272.5	177.3	162.8	159.1
75°	336.5	208.4	146.3	133.5	131.8
77.5°	265.3	148.1	115.2	107.9	104.2
80°	199.3	106.1	87.7	80.5	80.5
82.5°	139.0	71.4	60.3	56.6	56.6
85°	78.6	40.2	34.7	34.7	34.7
87.5°	29.3	14.6	14.6	12.8	12.8
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	16.47	17.99	16.83	18.30	18.62	12.43	13.95	12.79	14.26	14.58
	3H	18.23	19.60	18.61	19.92	20.29	13.69	15.06	14.07	15.39	15.75
	4H	18.90	20.18	19.30	20.53	20.91	14.19	15.47	14.59	15.82	16.20
	6H	19.39	20.57	19.80	20.94	21.33	14.57	15.76	14.99	16.12	16.52
	8H	19.55	20.68	19.98	21.07	21.47	14.70	15.83	15.13	16.22	16.62
	12H	19.66	20.73	20.09	21.12	21.55	14.78	15.86	15.21	16.24	16.67
4H	2H	16.57	17.85	16.97	18.20	18.58	13.12	14.40	13.52	14.75	15.13
	3H	18.50	19.57	18.91	19.97	20.37	14.57	15.63	14.98	16.03	16.43
	4H	19.25	20.21	19.69	20.63	21.06	15.17	16.12	15.60	16.54	16.98
	6H	19.85	20.68	20.30	21.12	21.58	15.65	16.49	16.11	16.93	17.39
	8H	20.06	20.84	20.52	21.28	21.75	15.81	16.59	16.28	17.04	17.50
	12H	20.21	20.91	20.70	21.39	21.86	15.93	16.63	16.41	17.10	17.58
8H	4H	19.28	20.05	19.74	20.50	20.97	15.52	16.30	15.98	16.74	17.21
	6H	19.91	20.56	20.41	21.05	21.53	16.11	16.75	16.60	17.24	17.72
	8H	20.17	20.74	20.68	21.25	21.74	16.33	16.90	16.84	17.41	17.90
	12H	20.37	20.88	20.88	21.37	21.94	16.50	17.01	17.01	17.51	18.07
12H	4H	19.26	19.96	19.74	20.43	20.91	15.56	16.26	16.04	16.74	17.21
	6H	19.90	20.47	20.41	20.98	21.47	16.17	16.75	16.68	17.26	17.74
	8H	20.18	20.69	20.69	21.18	21.75	16.44	16.95	16.95	17.44	18.01