

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: P915255

Luminaire Tested: DFN2DIP-TR2F0-060D020US927-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915255
REPORT IS A COMBINATION OF REPORTS P901750 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D020US927-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

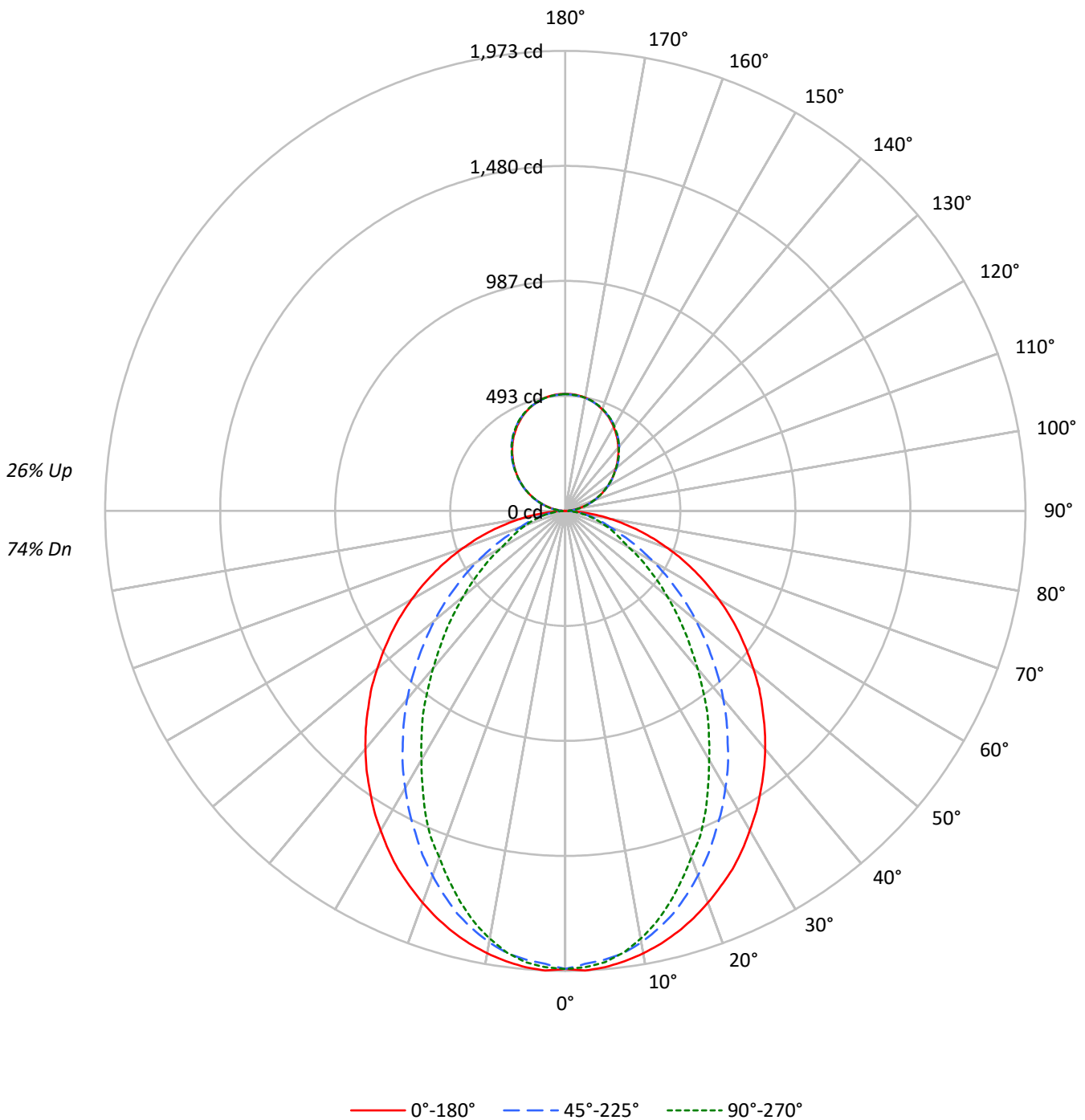
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5442.3 lumens
Efficiency: N/A
Efficacy: 72.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 74.7
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	113	113	113	113	107	107	107	107	97	97	97	87	87	87	78	78	78	74	74	74	74
1	104	100	96	93	99	95	92	89	86	84	81	78	76	74	70	69	68	64	64	64	64
2	95	88	82	77	90	84	79	74	76	72	68	69	66	63	63	60	58	55	55	55	55
3	87	78	71	65	83	75	68	63	68	63	58	62	58	54	56	53	50	47	47	47	47
4	80	70	62	56	76	67	60	54	61	55	51	56	51	47	51	47	44	41	41	41	41
5	74	63	54	48	70	60	53	47	55	49	44	51	45	42	46	42	39	36	36	36	36
6	69	57	48	43	65	54	47	41	50	44	39	46	41	37	42	38	35	32	32	32	32
7	64	51	43	38	61	49	42	37	46	39	35	42	37	33	39	34	31	29	29	29	29
8	59	47	39	34	57	45	38	33	42	36	31	39	34	30	36	31	28	26	26	26	26
9	56	43	36	31	53	42	35	30	39	33	28	36	31	27	33	29	26	24	24	24	24
10	52	40	33	28	50	39	32	27	36	30	26	33	28	25	31	27	23	22	22	22	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4382	4382	4382
5°	4382	4302	4332
10°	4332	4208	4184
15°	4266	4059	3959
20°	4180	3859	3686
25°	4093	3636	3422
30°	3978	3408	3090
35°	3865	3163	2799
40°	3749	2912	2466
45°	3615	2634	2165
50°	3477	2354	1872
55°	3331	2057	1590
60°	3162	1747	1302
65°	2968	1434	1163
70°	2731	1142	1042
75°	2434	988	934
80°	2006	801	787
85°	1317	496	553

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3615 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.1	3.4
10°-20°	505.4	9.3
20°-30°	709.6	13.0
30°-40°	773.5	14.2
40°-50°	710.9	13.1
50°-60°	558.3	10.3
60°-70°	363.4	6.7
70°-80°	187.1	3.4
80°-90°	49.2	0.9
90°-100°	31.0	0.6
100°-110°	98.5	1.8
110°-120°	168.6	3.1
120°-130°	221.7	4.1
130°-140°	248.9	4.6
140°-150°	244.1	4.5
150°-160°	204.7	3.8
160°-170°	135.8	2.5
170°-180°	47.5	0.9
0°-30°	1399.1	25.7
0°-40°	2172.6	39.9
0°-60°	3441.9	63.2
0°-90°	4041.5	74.3
90°-120°	298.1	5.5
90°-150°	1012.8	18.6
90°-180°	1401.0	25.7
0°-180°	5442.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1964	1964	1964	1964	1964	
5°	1964	1956	1932	1948	1943	186
15°	1868	1849	1788	1755	1737	527
25°	1696	1639	1522	1449	1422	780
35°	1461	1371	1214	1102	1063	915
45°	1195	1076	889	763	720	923
55°	908	770	578	471	437	812
65°	613	469	309	249	244	608
75°	327	203	142	130	128	346
85°	76	39	34	34	34	88
90°	0	6	15	14	14	5
95°	22	26	27	27	26	25
105°	91	92	93	94	94	96
115°	169	172	171	170	169	167
125°	246	250	249	247	247	220
135°	318	323	324	323	322	246
145°	386	389	392	392	391	241
155°	442	443	444	447	445	203
165°	481	480	480	483	481	136
175°	500	499	498	501	498	48
180°	501	501	501	501	501	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.5	1964.5	1964.5	1964.5	1964.5
2.5°	1973.3	1964.5	1944.8	1962.7	1959.1
5°	1964.5	1955.6	1932.4	1948.4	1943.1
7.5°	1948.4	1937.8	1913.0	1919.9	1911.1
10°	1927.1	1914.6	1879.2	1873.7	1863.1
12.5°	1900.5	1884.4	1836.4	1825.8	1806.2
15°	1868.4	1848.8	1788.4	1754.7	1736.9
17.5°	1831.1	1802.6	1727.9	1688.9	1660.4
20°	1788.4	1752.8	1664.0	1619.6	1580.4
22.5°	1742.2	1701.3	1598.1	1537.8	1511.2
25°	1696.1	1639.1	1521.8	1449.0	1422.2
27.5°	1641.0	1580.4	1450.6	1367.1	1326.2
30°	1582.3	1514.6	1372.4	1281.8	1233.7
32.5°	1525.3	1443.5	1297.9	1191.1	1146.6
35°	1461.4	1370.7	1214.3	1102.2	1063.0
37.5°	1399.2	1301.2	1136.1	1013.3	968.9
40°	1333.3	1226.8	1054.2	928.0	881.8
42.5°	1265.8	1152.1	972.5	840.8	796.5
45°	1194.7	1075.5	889.0	762.6	719.9
47.5°	1127.2	1001.0	809.0	682.6	643.6
50°	1052.5	926.3	730.7	607.9	570.8
52.5°	979.5	846.1	656.0	538.7	504.9
55°	908.4	769.8	577.7	471.2	437.4
57.5°	835.6	693.3	508.5	408.9	380.4
60°	760.9	618.7	435.5	345.0	316.5
62.5°	688.1	545.9	373.3	288.0	273.9
65°	613.4	469.3	309.3	249.0	243.5
67.5°	542.2	398.2	249.0	218.6	213.3
70°	467.5	328.9	206.1	188.5	181.3
72.5°	396.5	264.8	172.4	158.3	154.6
75°	327.1	202.6	142.2	129.8	128.1
77.5°	257.9	143.9	112.0	104.9	101.3
80°	193.7	103.1	85.2	78.3	78.3
82.5°	135.1	69.4	58.6	55.1	55.1
85°	76.4	39.1	33.7	33.7	33.7
87.5°	28.5	14.2	14.2	12.4	12.4
90°	0.5	5.5	14.8	13.9	14.3
92.5°	9.3	12.7	13.2	13.6	13.6
95°	22.0	26.3	27.0	27.0	26.3
97.5°	36.7	40.6	42.3	42.3	42.3
100°	53.6	57.1	58.3	58.3	57.8
102.5°	71.5	74.0	75.7	76.1	75.7
105°	90.9	92.1	93.1	93.8	93.8
107.5°	110.3	112.1	112.1	112.4	110.3
110°	129.0	131.4	131.4	131.4	130.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	151.8	151.4	150.1	149.2
115°	169.2	171.6	170.9	170.4	169.2
117.5°	189.0	192.3	190.2	189.0	187.7
120°	208.9	212.2	208.9	208.9	207.6
122.5°	227.0	231.2	229.2	228.0	227.0
125°	246.1	249.9	248.7	247.3	246.8
127.5°	264.7	269.3	267.7	265.9	264.7
130°	282.0	287.5	286.7	285.8	284.2
132.5°	301.5	305.8	306.0	304.0	302.7
135°	318.3	323.0	323.8	323.4	322.2
137.5°	337.0	340.8	341.6	341.3	339.4
140°	353.5	357.3	359.4	359.4	357.7
142.5°	370.4	374.1	375.4	375.8	374.1
145°	386.4	389.4	391.9	392.3	390.6
147.5°	400.8	404.6	406.4	407.1	405.4
150°	415.6	418.1	419.8	421.1	419.8
152.5°	428.7	431.3	433.4	435.1	433.4
155°	441.9	443.1	444.4	446.6	445.2
157.5°	453.2	454.1	454.9	457.9	455.7
160°	463.3	464.2	464.7	467.2	465.4
162.5°	472.7	472.7	473.1	476.0	473.9
165°	480.7	480.2	480.2	483.2	481.2
167.5°	487.9	486.6	486.6	489.6	487.5
170°	493.4	492.2	491.7	494.7	492.2
172.5°	497.2	495.9	495.5	498.5	495.9
175°	500.2	499.0	498.0	501.1	498.5
177.5°	501.8	500.7	499.7	502.2	499.7
180°	501.1	501.1	501.1	501.1	501.1



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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	14.17	15.25	14.90	15.99	16.87	10.15	11.23	10.88	11.97	12.85
	3H	15.84	16.81	16.58	17.56	18.47	11.34	12.31	12.08	13.06	13.97
	4H	16.45	17.36	17.20	18.11	19.04	11.80	12.70	12.55	13.46	14.39
	6H	16.86	17.70	17.63	18.47	19.40	12.12	12.95	12.88	13.72	14.66
	8H	16.99	17.78	17.76	18.57	19.51	12.21	13.00	12.98	13.79	14.73
	12H	17.05	17.80	17.83	18.58	19.55	12.25	13.01	13.03	13.79	14.75
4H	2H	14.22	15.12	14.97	15.88	16.81	10.77	11.67	11.52	12.43	13.36
	3H	16.04	16.79	16.81	17.59	18.53	12.12	12.87	12.89	13.67	14.61
	4H	16.72	17.41	17.51	18.20	19.17	12.66	13.35	13.45	14.14	15.11
	6H	17.23	17.82	18.03	18.64	19.62	13.08	13.67	13.88	14.49	15.47
	8H	17.40	17.95	18.20	18.76	19.75	13.20	13.75	14.01	14.57	15.56
	12H	17.49	17.98	18.32	18.82	19.81	13.27	13.77	14.10	14.60	15.60
8H	4H	16.70	17.26	17.51	18.07	19.06	12.95	13.50	13.75	14.31	15.30
	6H	17.25	17.71	18.09	18.57	19.56	13.45	13.91	14.29	14.77	15.75
	8H	17.46	17.86	18.30	18.72	19.72	13.63	14.04	14.48	14.89	15.90
	12H	17.59	17.95	18.44	18.79	19.85	13.75	14.11	14.60	14.95	16.01
12H	4H	16.67	17.16	17.49	18.00	18.99	12.96	13.45	13.79	14.29	15.28
	6H	17.23	17.63	18.08	18.49	19.49	13.50	13.90	14.34	14.76	15.76
	8H	17.44	17.80	18.29	18.65	19.71	13.70	14.06	14.55	14.90	15.97