

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: P915296

Luminaire Tested: DFN2DIP-TR3F0-030D090US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915296
REPORT IS A COMBINATION OF REPORTS P900355 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-030D090US927-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

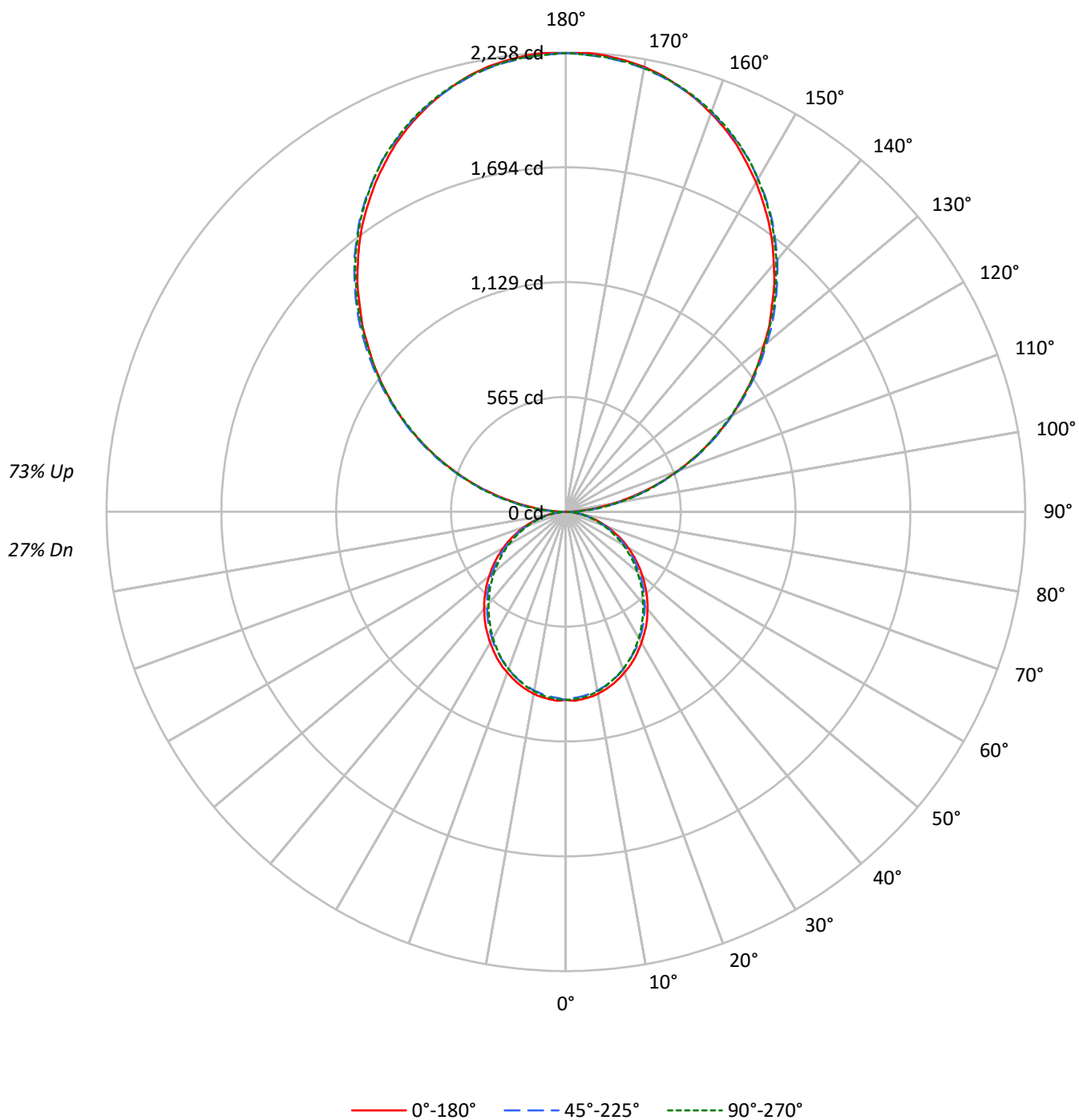
Lumens per Lamp: N/A
Luminaire Lumens: 8662.5 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 94.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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
RCR																	
0	102	102	102	102	91	91	91	91	71	71	71	52	52	52	35	35	35
1	93	88	85	81	83	79	76	73	62	60	58	46	44	43	31	30	30
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25
3	77	68	61	55	68	61	55	50	48	44	40	35	33	30	24	23	21
4	70	60	52	47	62	54	47	42	42	38	34	32	29	26	22	20	18
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	19	17	16
6	59	48	40	34	53	43	36	31	34	29	25	25	22	20	18	16	14
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12
8	51	39	31	26	45	35	28	24	28	23	20	21	18	15	15	13	11
9	47	35	28	23	42	32	26	21	25	21	17	19	16	14	14	11	10
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1152	1152	1152
5°	1153	1135	1143
10°	1144	1119	1127
15°	1126	1100	1102
20°	1103	1073	1076
25°	1079	1041	1047
30°	1050	1012	1010
35°	1023	977	971
40°	989	942	933
45°	956	907	895
50°	919	870	851
55°	880	828	810
60°	836	777	763
65°	788	725	708
70°	727	661	648
75°	643	584	592
80°	541	486	486
85°	382	320	314

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2202 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	1.0
10°-20°	244.9	2.8
20°-30°	359.9	4.2
30°-40°	418.0	4.8
40°-50°	417.5	4.8
50°-60°	364.0	4.2
60°-70°	269.1	3.1
70°-80°	152.3	1.8
80°-90°	46.6	0.5
90°-100°	139.5	1.6
100°-110°	443.3	5.1
110°-120°	758.7	8.8
120°-130°	997.8	11.5
130°-140°	1120.0	12.9
140°-150°	1098.2	12.7
150°-160°	921.3	10.6
160°-170°	611.0	7.1
170°-180°	213.5	2.5
0°-30°	691.8	8.0
0°-40°	1109.8	12.8
0°-60°	1891.3	21.8
0°-90°	2359.2	27.2
90°-120°	1341.5	15.5
90°-150°	4557.5	52.6
90°-180°	6303.0	72.8
0°-180°	8662.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	925	921	911	918	917	88
15°	880	875	863	867	862	248
25°	797	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	286	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	41
90°	2	24	67	62	65	9
95°	99	118	122	122	118	110
105°	409	415	419	422	422	432
115°	761	772	769	767	761	753
125°	1107	1124	1119	1113	1111	990
135°	1432	1453	1458	1455	1450	1107
145°	1739	1752	1763	1765	1758	1086
155°	1988	1994	2000	2009	2003	915
165°	2163	2161	2161	2175	2165	610
175°	2251	2245	2241	2255	2243	214
180°	2255	2255	2255	2255	2255	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.7	924.7	924.7	924.7	924.7
2.5°	930.1	925.7	915.8	924.7	923.0
5°	924.7	921.2	911.4	918.5	916.8
7.5°	918.5	913.2	903.4	910.6	908.8
10°	908.8	902.5	891.9	899.0	896.4
12.5°	895.4	890.1	879.5	883.8	882.1
15°	880.3	875.0	863.4	867.0	862.5
17.5°	861.6	856.3	844.7	849.1	844.7
20°	841.1	835.8	823.4	826.0	822.5
22.5°	820.8	812.8	801.1	801.1	799.3
25°	796.7	789.6	774.5	776.3	774.5
27.5°	770.0	763.7	752.3	749.6	745.2
30°	743.4	736.3	722.9	720.3	716.7
32.5°	714.9	709.6	695.4	690.0	686.4
35°	687.4	678.5	664.2	658.9	654.4
37.5°	656.2	648.2	634.0	627.7	623.3
40°	624.2	617.1	602.8	594.9	591.4
42.5°	593.1	586.0	571.8	562.8	557.5
45°	559.4	553.1	539.7	530.0	526.4
47.5°	526.4	520.2	506.0	496.1	490.8
50°	491.7	487.3	474.8	462.4	458.0
52.5°	458.0	451.7	440.2	430.4	424.1
55°	423.3	418.0	407.3	396.6	392.2
57.5°	388.6	384.1	372.6	361.9	358.3
60°	353.9	350.4	337.9	328.1	325.5
62.5°	320.1	313.9	305.0	296.1	292.6
65°	285.5	280.1	271.2	263.2	258.8
67.5°	249.9	245.4	237.4	231.2	227.7
70°	217.0	213.4	205.4	199.2	195.7
72.5°	183.2	179.6	175.2	169.0	166.4
75°	149.3	147.7	143.1	137.8	139.7
77.5°	119.1	115.6	113.8	111.1	108.5
80°	89.0	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.7	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
90°	2.1	24.5	66.6	62.5	64.6
92.5°	42.1	57.1	59.2	61.2	61.2
95°	99.3	118.3	121.7	121.7	118.3
97.5°	165.2	182.8	190.4	190.4	190.4
100°	241.3	257.0	262.4	262.4	260.4
102.5°	321.5	333.1	340.6	342.6	340.6
105°	409.2	414.6	418.7	422.2	422.2
107.5°	496.2	504.4	504.4	505.7	496.2
110°	580.5	591.4	591.4	591.4	586.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	671.6	683.2	681.1	675.7	671.6
115°	761.4	772.2	768.8	766.8	761.4
117.5°	850.4	865.4	855.9	850.4	844.9
120°	940.2	955.1	940.2	940.2	934.0
122.5°	1021.7	1040.8	1031.3	1025.8	1021.7
125°	1107.4	1124.3	1119.0	1112.8	1110.8
127.5°	1191.0	1212.0	1204.6	1196.4	1191.0
130°	1269.2	1293.6	1290.2	1286.1	1278.7
132.5°	1356.8	1375.9	1377.2	1367.7	1362.3
135°	1432.3	1453.3	1457.5	1455.4	1450.0
137.5°	1516.6	1533.6	1537.0	1535.6	1527.5
140°	1590.7	1607.7	1617.2	1617.2	1609.7
142.5°	1666.8	1683.8	1689.2	1691.3	1683.8
145°	1738.9	1752.5	1763.3	1765.4	1757.9
147.5°	1803.5	1820.4	1828.6	1832.0	1824.6
150°	1870.1	1881.7	1889.1	1895.2	1889.1
152.5°	1929.2	1940.8	1950.3	1957.8	1950.3
155°	1988.4	1993.8	1999.9	2009.4	2003.3
157.5°	2039.3	2043.4	2046.8	2060.4	2050.9
160°	2084.9	2089.0	2091.0	2102.5	2094.4
162.5°	2127.0	2127.0	2129.1	2142.0	2132.5
165°	2163.1	2161.0	2161.0	2174.6	2165.1
167.5°	2195.7	2189.6	2189.6	2203.1	2193.6
170°	2220.2	2214.7	2212.7	2226.3	2214.7
172.5°	2237.1	2231.7	2229.7	2243.3	2231.7
175°	2250.7	2245.3	2241.2	2254.9	2243.3
177.5°	2258.2	2252.8	2248.7	2260.3	2248.7
180°	2254.9	2254.9	2254.9	2254.9	2254.9

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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	5.10	5.79	6.23	6.91	8.48	4.67	5.36	5.80	6.48	8.05
	3H	6.74	7.36	7.88	8.49	10.07	6.27	6.89	7.41	8.02	9.60
	4H	7.31	7.90	8.46	9.03	10.61	6.85	7.43	7.99	8.56	10.15
	6H	7.70	8.24	8.85	9.37	10.96	7.23	7.77	8.38	8.90	10.50
	8H	7.79	8.30	8.95	9.45	11.04	7.32	7.84	8.48	8.99	10.57
	12H	7.83	8.32	8.99	9.46	11.07	7.36	7.84	8.52	8.99	10.60
4H	2H	5.54	6.12	6.69	7.25	8.84	5.20	5.78	6.35	6.91	8.50
	3H	7.38	7.87	8.54	9.02	10.62	6.99	7.48	8.15	8.63	10.23
	4H	8.08	8.53	9.24	9.67	11.29	7.68	8.13	8.84	9.27	10.89
	6H	8.57	8.96	9.74	10.13	11.73	8.17	8.56	9.34	9.72	11.33
	8H	8.71	9.07	9.88	10.23	11.86	8.31	8.67	9.48	9.83	11.45
	12H	8.77	9.10	9.96	10.27	11.90	8.36	8.69	9.54	9.86	11.48
8H	4H	8.26	8.62	9.42	9.78	11.40	7.90	8.26	9.07	9.42	11.04
	6H	8.87	9.17	10.06	10.37	11.99	8.51	8.81	9.70	10.01	11.63
	8H	9.08	9.34	10.27	10.52	12.16	8.72	8.98	9.91	10.16	11.80
	12H	9.20	9.43	10.39	10.60	12.27	8.82	9.05	10.02	10.23	11.90
12H	4H	8.23	8.56	9.42	9.73	11.36	7.88	8.21	9.07	9.38	11.01
	6H	8.90	9.15	10.09	10.33	11.97	8.55	8.81	9.74	9.99	11.63
	8H	9.12	9.35	10.32	10.53	12.20	8.77	9.00	9.97	10.17	11.85

END OF REPORT